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ON

SPEECH FORMATION.

ON
SPEECH FORMATION
AS THE BASIS FOR
TRUE SPELLING.

BY

HENRY FREEMAN.

LONDON:
TRÜBNER & CO., LUDGATE HILL.
1886.

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PREFACE.

THE reader who has not before had his attention particularly directed to the subject here treated upon, may not improbably be surprised to learn that so little has hitherto been known concerning the elements of speech that it has been found impossible till now to exhibit a true alphabet of any language, ancient or modern, all alphabets being in fact more or less wide of the mark. By those, moreover, who have studied the subject, and who are able to form some idea as to the widespread inconvenience suffered by reason of this want of information relative to a matter that lies at the root of all true knowledge of language, the statement that the fixed and natural basis of language is at last to be made known in its integrity will perhaps be received with no less surprise. Yet I am constrained to believe that it has fallen to my lot to accomplish this most desirable object, and to present

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to view in the following pages the true elements of speech completely and unmistakably identified, and which, moreover, will, I think, be found to be universally applicable.

Furthermore, on the principle of proving a new weapon, the elements will be found duly turned to account in spelling, showing the actual and prevalent pronunciation of the day, the pronunciation being truly and consistently reflected in the spelling.

Briefly stated, the plan here observed in the treatment of the subject of Speech Formation, considered as a whole, has been to follow the natural development of the same, starting with an inquiry into the mode of sound production, regarded as the first stage in the process, and proceeding with the other parts of the subject in due order.

17th November 1885.

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INTRODUCTION.

By way of definition, speech may be said to be the natural means provided for giving expression to the ideas, thoughts, or operations of the human mind.

Men of learning in various ages and countries have made speech, in one form or other, the study more or less of their lives, yet, strange to relate, the elements, the foundation of the whole matter, have continued till now to be only partially and imperfectly understood, while their number and limits have remained undetermined.

That speech is formed of a fixed and limited number of elements, their natural order and classification, that they are combinable or coherent, and that the elements of all languages are comprised within the same fixed and specified limits, such are among the chief facts sought to be established in the following pages.

True speech, then, is coherent, all the elements being in different degrees combinable with others of their own number. Other sounds are mere incoherencies, outside the strict meaning of the term speech, though serving in some sort as a means of communication. Of these the click and cluck are instances. The famous Zulu click, for example, over which the minds of writers have been exercised, is probably nothing more than the ordinary click evolved it may be with more than ordinary force. For all such clicks can be varied according as the mouth and tongue are subjected to different contortions.

Into the history of language it is not my intention to enter at length. I take it that language has never varied in its elements from what it now is. To suppose otherwise would be to imply a physical change in the vocal organs, to the conformation of which the character of the elements is due, each element in fact corresponding in character with a particular and distinct physical formation of the said organs. Formation, therefore, is the immediate producing cause of speech, the two things standing to each other in the relation of cause and effect. Guided throughout by the knowledge of this fact, I have been enabled to give such a presentment of the spoken language as would hardly otherwise have been possible of achievement. That I have been able to render with precision I had almost said with unerring precision, but to be on the safe side we will consider the unerring omitted, the spelling of a somewhat lengthy string of words is submitted as a practical demonstration of the soundness of the formative principle of spelling.

The subject of spelling reform has been much discussed, but no practical headway seems to have been made with it; and after all the attempts that have been and are being made in this direction, the desired reform still appears on the face of it remote of accomplishment, though there are not lacking signs of the existence of a strong current of feeling in favour of a change of some kind, which, as matters can hardly be much worse than at present, might possibly be for the better. Yet we may almost take it for granted that, however much it may be desired to improve the present state of things, no extensive change will be brought about unless a very good case is made out, not only on the score of the practical advantage to be derived therefrom, but likewise in the matter of security from indefiniteness, that when once the change sets in it may be on something like a firm basis. For the present spelling is felt to have at least the recommendation of being generally accepted, clumsy though it be, and unscientific to a degree. And it is surely difficult to imagine anything much worse in the way of spelling than that of the English language, by reason of its numberless inconsistencies and want of method. It is hoped that the publication of the present work will open up a way out of the difficulties by which the subject of reform is beset, and so help to put an end to the existing unsatisfactory state of things.

The need for reform is too well recognised to require advocating at length here. Under existing circumstances learning to spell and to read are tasks of difficulty, slow and wearisome withal, and children are thumped into learning the mysteries appertaining thereto by unsympathising teachers, impatient of what they are apt to set down to stupidity, forgetful of their own early experiences and perplexities in like case, while more time is of course taken up with spelling lessons than would otherwise suffice for the purpose.

Then, again, pronunciation and spelling being at cross purposes acts as a restriction to the use of many words that might otherwise obtain wider currency, providing the spelling were, as it might and should be, the standard, because the true counterpart, of pronunciation. Most persons will refrain instinctively from attempting the use of words of the pronunciation of which they are ignorant or doubtful. The good sense of the many leads them to fight shy of unfamiliar and what they term big words. Although, on the other hand, there are those who in their utterances interpret the spelling after some mistaken analogy, apparently unmindful of current pronunciation, the effect in consequence being not unfrequently ludicrous.

As to the advantages to be derived from a consistent method, we may premise that true spelling presupposes a true elementary or alphabet, a knowledge of which should in itself furnish the key to the right pronunciation of written words. And as spelling is the first step in the path of accumulated knowledge, so it should also be, as it well might, the easiest. Were the spelling only consistent and reliable, the people generally, from one end of the country to the other, would be able to enrich their speech, or to encumber it, as the case might be, with a vastly increased number of words. A further inevitable consequence would be the attainment of practical uniformity of speech and the elimination of local peculiarities or dialects. If the probable extinction of the latter be on some grounds matter for regret, consolation may be afforded by the fact that, given the aptitude for the work, those who are interested in such matters may find herein the materials ready to their hand to preserve infallibly the knowledge of the same.

In the absence of true spelling, a language once fallen into disuse becomes for the most part irrecoverably lost, as far as concerns form or pronunciation; whereas the language that shall find its true written representation will always be capable of being recalled or revived after the lapse of time.

It is generally admitted that under actual conditions a foreign tongue to be properly learnt must be heard spoken; but this again is only because of the same universal defect in the matter of spelling, and under the more favourable state of things here contemplated this drawback may be expected to be removed, all languages being composed and built up of the same elements, which, taken together, form the outcome of what is called the faculty of speech, and consisting of a certain fixed number of parts—after the same manner that the human body is made up of various members according to a definite plan, and people, of whatever race or complexion, all have the like bodily characteristics or limb formations. And just as to the completeness of these parts in the body nothing can be added or taken away without injury to the general harmony of proportion, even so is it with the elements of speech, the complete and symmetrical plan of which admits of no deviation. We shall have occasion to return to this point in due course. If our contention, however, be thus far correct, then we have some ground to go upon, and with a sure footing on the same, we may hope to arrive at a just conclusion and bring our labours to a successful issue. For my part, I am content to believe that we have here the key to the construction of all languages, allowance being made for national peculiarities of utterance.

The progress of civilisation has been helped forward by many devices, adapted by their utility to the wants of communities; as, for instance, by the arts of writing and printing, by the use of the steam-engine, and by the application of electricity. Yet before the invention of the steam-engine the world managed to get on more or less well, never probably realising its need for such an implement, though it is not easy now to conceive the possibility of dispensing with its powerful aid, whilst it is hard to foresee or to imagine by what means in the future it is to be superseded. Electricity again, in the various uses to which it is applied, is another instance of an invention marking a distinct advance in the arts of life and the upward movement to a higher standard of existence, a movement, moreover, not improbably destined to be extended in some measure to all nations. This too is an invention without which in bygone times the world managed to subsist more or less comfortably. Such inventions are rather conditional than absolute necessaries, that is to say, necessary under certain phases or in certain stages of existence, known and applied by certain nations and not by others, and discovered only in course of time, and just when required for the furtherance of the ends of an overruling Providence. Speech, on the contrary, is a universal endowment, possessed at all periods, a gift, not a discovery, indispensably necessary to man, as such, under every condition of life.

Writing and spelling are so closely allied in practice that a consideration of the one involves a reference to the other, both of them again being allied in object with the faculty of speech. The distinction is that speech is the natural means of conveying thought, and writing an artificial means to the same end, the latter resulting from, and being complementary to, the former, and being more or less perfect or imperfect, according to the measure of its correspondence with the same. Spelling may be defined as the analysis of speech into its component elements and their application in the process of writing.

In continuation of our preliminary remarks, we now pass on to inquire as to what are some of the obstacles barring the road to improvement with regard to spelling. Obstacle number one, then, and a very sufficient one in itself, has been the universal ignorance on the subject of the alphabet. If we turn to the works of any of the authorities on this matter, we find that each of them has one or more alphabets of his own, with letters or symbols varying in number according, it may be, to fancy, some more, some less. The interminable length to which matters have been carried in this respect serves, at all events, to show how far the true state of the case is from being suspected, even by those supposed to be best acquainted with the subject. This excess, the symbols in some instances being strung together by hundreds, has, if I mistake not, reached its worst only in comparatively recent years. Supposed new sounds are continually being added, much after the same fashion as in natural science the student enriches his collection by the addition of new specimens of such objects as belong unto his chosen science, or to the particular branch of it to which his attention is directed; as, for example, a new specimen is added to his collection by the student of geology, or as some butterfly or beetle of a new species is ruthlessly impaled to augment the treasures of the entomologist. A creature veritably chameleonic by reason of its variableness is the product of their imagining. For my part, I have been much struck with the very and painfully evident contradictions in spelling exhibited in such attempts of the kind as have come under my notice, the same element being variously represented, combinations mistaken for single elements, and so on. These same contradictions and inconsistencies helped, in fact, to excite or confirm my suspicion that the true elements to be sought out before aught else were in reality, could they be only identified, fixed and limited in number and character, with such a relation and proportion of parts altogether as might be looked for in the design of a finished work. In the following plan of the elements, the exact formation into square, the proportion of column against column, and the balance of all the parts one against another, are facts that point unmistakably to a just and complete adaptation of means to ends in the design and bestowal of speech. This completeness of the parts and the perfect and unbroken symmetry of the whole point to the conclusion that we have therein the broad and sufficient limits of the coherent speech of all mankind.

To compensate for the violent upsetting of the current spelling, that which is proposed to replace it should be something beyond a mere substitution of one arbitrary method for another. With a rational system in place of the existing confusion, it may be hoped that the last barrier will have been removed from that wide and rapid diffusion of education and knowledge so increasingly necessary under the manifold changes that are being wrought in the constitution of the country; and now that children are required by law to undergo instruction in the rudiments of learning, it behoves those who have the management of affairs to see to it that the work of teaching is well directed.

As observed above, the one thing in favour of the present spelling is the fact of its general adoption, contrasting with the variable practice of bygone times, whilst the language was being gradually reduced to writing. A somewhat curious circumstance in this connection is that exact adherence is demanded as a test of education, and we hear such phrases as good and bad spelling, as if that spelling could by any possibility be otherwise than bad which forms a gross misrepresentation of, we might almost say a libel on, the spoken language.

Another obstacle has to be dealt with in the tendency to etymological spelling, owing perhaps more to a sentimental feeling of attachment to familiar spellings of old word-forms than to any tenable argument as to the reason or utility of the thing. Probably this will not prove a very formidable obstacle in the way when the practical test comes to be applied, and the nation comes to be convinced, not as to the desirability, that being already too obvious to admit of doubt, but as to the practicability of the introduction of such a measure of reform as will compensate for the trouble attending the process. Let the case for reform be made good by being made practicable, and we need not greatly fear for the rest. Here it may not be altogether unprofitable to inquire what is the actual bearing of etymology with reference to the spelling question. It belongs then, I take it, to the province of etymology to trace the history of words back to their earliest records, and to show the deviations they have undergone in the course of time. It is useful to know the derivation and former application of words as well for the purpose of being able to use them with the greater propriety and freedom as in order to know the more readily what construction to put upon them in their use by others, and to the clearing up of such obscurities as are found in writings that, by lapse of time or otherwise, are in need of it. So far there is little doubt on the score of usefulness. As to the absorbing interest evinced in the subject, witness the many dictionaries full to overflowing with the results of patient industry and research—some of them indeed of vast proportions. Etymology, however, it should be remembered, is primarily a subject of historical interest; and although, as we cannot but admit, desirable on many grounds as a study, still it forms but one amongst other branches of the art, science, and mystery of language, each of importance chiefly and in so far as it contributes to practical utility, or in proportion as it tends to perfect and simplify the general employment of speech suitably to its natural working and its accurate delineation by the aid of letters. Moreover, we may depend upon it that the etymologist will not perish out of the land merely because a false and vicious spelling becomes obsolete, but the rather, from the introduction of a better state of things instead thereof, he will, as it were, like a giant refreshed, renew his onslaughts into the field of indogermanischen roots, primatives, derivatives, cognates, sound-shiftings, and the rest. The demand for so much labour in the production of word-books might possibly be regarded as evidence of unwieldiness in the composition of the language as a whole, by reason of the number and variety of foreign ingredients by which the staple language of the people is intermixed, if not overloaded. Foreign elements added to the common stock retain their strange aspect; their meaning is less obvious, they do not become naturalised like words of home growth in familiar use, and do not find acceptance beyond the range of a comparatively few persons. Often, moreover, their pronunciation is at least hazardous, the etymological spelling serving as a pitfall to the unwary, who are lured into attempting it, peradventure to find, to their own confusion, that they have done violence in the matter of accent, or something of the sort. Or it is just as likely that they will remain unconscious of their error. Generally speaking, then, it may be said that of a vast number of uncommon words many of them might with profit be made commonly available, and would certainly have become so but for the hitherto insurmountable difficulty in the way of recording the pronunciation alike of common words as of such as are unfamiliar, or, in short, for want of a true and reliable method of spelling. Further, it may be safely affirmed that even though the meaning of a written word be pretty evident, yet, the pronunciation being unknown or doubtful, a word or sentence will often in such cases lose in force and fall short of its full effect, while the recurrence of such words in a given work will be apt to diminish the reader's interest in it, in proportion to their frequency. That is, supposing the work to be one intended for the individual vaguely styled the general reader. Under such conditions, to the popular mind at all events, it is likely to become tiresome.

A fundamental error attributable to those to whom we are indebted for the present written word-forms consisted in the forcing of derivatives into maintaining a sort of physiognomical or family resemblance to the supposed paternal stock, the originating or primary written word-form. This is, of course, only of the essence of etymological spelling. Yet by addition, by excision, or otherwise, the accent becomes removed, and in consequence the derivative bears, in the spoken language into which it is ingrafted, only a diminished indication of its origin, such diversity being rendered imperative on the score of rhythm or of harmonious combination. Now the first object in writing should be to represent the spoken word, which being attained, the generally known and currently received meaning, which in ordinary intercourse is all that is wanted, will go with the word so represented. Any attempt to twist and turn the spelling so as to square with the etymology is both contrary to the fitness of things and certainly calculated to prevent the much to be desired correspondence being brought about between spelling and pronunciation. Etymology, be it remembered, whatever its merits, is at the most the concern of a comparatively few, whereas all are concerned in the matter of spelling, from the highest to the lowest.

To sum up on this point, we may observe, speaking generally, that words derived from other languages should be made to conform with the language into which they are imported or ingrafted, so that its structural uniformity may be retained, however varied the sources from whence the words are drawn. Like as in the construction of an edifice the materials are shaped for their particular purpose in conformity with the general design of the whole. No considerations as to etymology should interfere with this rule.

As in no human invention is great perfection attainable all at once, so it would be unreasonable to find fault because the invention of letters and of the art of spelling have proved no exceptions to the rule. And I may observe that if the use of letters, all faults and impediments notwithstanding, has been hitherto of so vast importance, much more may their practical utility be expected to be increased and extended as the right use of them becomes better understood.

Here I would ask the reader to bear in mind throughout that we have mainly to do with the reality, the spoken language, the natural working and fixed characteristics of which we have, as far as we are able, to delineate. Apart from this, letters are mere arbitrary signs, to be altered or changed at will, or by common consent. It is the more necessary to bear this distinction in mind from the circumstance that writers have a way of mixing up the two things in such wise as to render it doubtful at times which of them is uppermost. Indeed, the whole field of language and the laws by which it is, or is supposed to be, regulated, as presented to us under the term grammar, stands greatly in need of independent overhauling.

Finally, I have endeavoured to show the true state of the case in regard to the spelling question from a practical point of view, free from the fictions and prejudices by which, as in a cloud, the subject of language in general is enveloped, to the obscuration of truth and to the hindrance of progress in the way of reform and public utility. The importance of having the subject cleared up and placed on a right basis does not need to be further insisted upon, considering the power of letters as a means and instrument affecting the condition, convenience, and welfare of the world at large, and of individuals in particular; and this process of clearing up will, I trust, be found duly set forth in the following pages, which I now commend to the attention of the reader without further preamble.

ON SPEECH FORMATION.

CHAPTER I.

SOUND.

THE physical production of sound treated experimentally forms a wide subject of itself, and as such is beyond the scope of our present undertaking. In order, however, to the better understanding of our subject, and withal as a matter of considerable interest, we will endeavour to give a general idea as to the mode of sound production as far as relates to voice production and to the illustration of the same. And though not absolutely necessary to our purpose, a short statement of some of the main facts of the case in respect of sound, which by analogy may be regarded as the material or substance to be worked into shape, that is to say, into speech, will not be amiss in connection with our more particular investigations.

VACUUM SOUNDS.

Sounds in general may be roughly divided into vacuum and non-vacuum sounds. In the former, as the term is chosen to indicate, the condition set up at the point of their production is that of more or less perfect or imperfect vacuefaction. In other words, there is discontinuity of the air, the more or less clearness characteristic of such sounds being in proportion to the degree of vacuefaction attained. Sounds of explosion and vibration are of this nature.

Sounds differ according to the material acted upon and the means brought to bear in their elicitation. Furthermore, the invisible medium of air is necessary for the conduction of the same. An experiment in proof of this is to place a piece of clockwork inside a kind of air-tight glass cover, from which, the air being pumped, the striking of the clock may be seen to be going on without any sound being heard until air is let in.

SOUNDS OF EXPLOSION.

When an explosion takes place there is an instantaneous expansion of the exploded gas, the first effect of which is to displace a certain volume of the surrounding air, such displacement being by pressure and compression of the air outwards in all directions. The explosion having done its work and collapsed, its force being expended, what must needs follow is the reflux and rebound of air into the existing gap or imperfect vacuum; pressure to this end being exerted all round, the gap is filled up instantly and violently. There is thus a double operation, namely, displacement and replacement. The first, as stated, by pressure of the air outwards, and then the closing of the hollow resulting therefrom. The impulse thus given is communicated all round, and moves wave-like through the pervading and elastic air. spherical in outline, its scope enlarging, its force gradually diminishing in the distance, until finally subsiding under the continued resistance of the atmosphere. It is after this manner that, according to the accepted theory, by a swift sound-wave or progressive wave of air compression, sound is communicated to the human ear.

THE EAR.

Inside the ear the passage is closed by what is termed the *membrana tympani,* or drum membrane. As the sound-wave in its course reaches this it presses it momentarily inwards. In other words, the membrane yields to the augmented density or weight of air brought to bear upon it in the fleeting process indicated. The wave passes on, the air which has been submitted to its action regains its previous condition of less density, and the membrane in question returns outwards to its former position or point of equilibrium. In fact, the action and impression together upon the ear, that is to say, the sound, is just a representation of the originating action and form of displacement, be it explosion or whatever else.

The movement thus effected is described technically as passing from the *membrana tympani* to the *ossicula auditus,* a chain of bonelets in the cavity of the drum, the first of these bonelets, the *malleus* or hammer, being at one of its ends attached to the before-named *membrana tympani.* At its other end, the next link in the chain is reached in the *incus* or anvil. And then the *stapes* or stirrup, joined to the last named, completes the chain. At the innermost end to which this chain conducts, the drum is closed by two *fenestræ* or windows, formed of membrane in the partition separating the cavity of the drum from the marvellous and intricate structure of the labyrinth, into which the sound is transmitted by way of the said *fenestræ*, or one of them, and thence by the auditory nerve to the mind and perception of the individual—the operation being thus completed.

The foregoing short account will, I think, be found to agree there and thereabouts with the generally accepted theory. One or two points, however, seem to require further consideration. Much, for example, is said about compression and rarefaction, whilst not sufficient account is taken of displacement. Whereas I take it that the perfection of sound consists in the degree to which displacement with vacuity or vacuefaction is effected. A perfect vacuum is said to be unattainable, yet to all intents and purposes a vacuum is brought about in the act of vibration. To further illustrate the notion as to the necessity for this, let us return for a moment to the case of an explosion of gas. In the case supposed, whether the explosion be on a large or a small scale, there is no doubt an all but complete dispersion of air, while traces will remain of the exploded gas, though of great tenuity. So far, of course, the vacuum is imperfect. If the displacement thus brought about could by any means be maintained the wave process would still follow, as before described, independently of the reflux; only the effect would probably be in the first place, in the absence of reflux, to increase the density of the wave under pressure, whilst the subsequent rarefaction would only bring the density back to the point at which it stood before disturbance. This argument is based on the supposition of a vacuum being maintained, and is designed to show by contrast the effect produced by the reflux that succeeds displacement. To my thinking this reflux is the chief factor in the conduction of sound. In the case stated we have seen that the tendency would be primarily in the direction of increased wave density and force outwards, while the succeeding rarefaction or degree of tenuity would stop short at the starting-point. Now this is just where it should not stop if the greatest possible effect is to be produced, otherwise the sound will be comparatively faint and ineffective. Accordingly the prompt reflux following an explosion redoubles the degree of tenuity all along the line, and renders it greater than before disturbance; the outward wave and the reflux proceeding in opposite directions both contribute to this end.

We pass on to notice the bearing of all this in regard to the sense of hearing. The current theory, as we have seen, makes the wave first to press inwardly the *membrana tympani.* Probably it does so to a slight extent, the form of the sound-wave being at the same instant stamped upon it. There may be to some extent a yielding to outward pressure; still there appears to be a difficulty in the fact that the drum is filled with air, the escape of which under ordinary circumstances is thought to be completely barred. Therefore if the membrane is pressed inwardly it must be by sheer force of compression of the enclosed air—under the conditions of the case, not perhaps so easy a matter as it is thought to be. It is a different thing to pressure on the open air. Be this, however, as it may, the motion of the membrane might be thought to be greater outwards, namely, in the opposite direction to that just described. There is evidently more scope for this, the motion being in the direction of the open, and consequently more yielding, fluid. According to the force of the explosion and the amplitude of the resulting vacuum, by so much will the inevitable reflux induce rarefaction, which means diminution and withdrawal of pressure from the ear, the membrane tending outwards in consequence—how far outwards and in what period of time being likewise in proportion to the originating force and amplitude.

Many simple facts might be named in support of this vacuum theory of the production of sound. If air be pumped from any vessel or cavity whatever, and it be sharply opened, a more or less loud report will follow the inrush of air. The sudden uncorking of a bottle points to the same fact by the attendant report. The common click, too, is caused simply by a vacuum formed between the tongue and roof of the mouth. In these instances the immediate effect is clearly calculated to draw off pressure from surrounding objects, or those within earshot. So that, in such cases at least, the evidence is decidedly in favour of primary outward motion of the *membrana tympani*, through the drawing-off process described; differing in this respect from the disturbance by explosion in that in the one case the operation begins by pressure and condensation outwards from the point of action, while in the other it is begun reversely by drawing inwards to that point.

VIBRATION.

Vibration is the motion to and fro of an elastic body caused by disturbance of its component particles, the incitement of which individually and severally into a state of unrest is extended bodily to the whole, tending to produce more or less of vacuefaction in the line of its action. The term is applicable to the motion of any elastic solid body deflected from its point of equilibrium and returning thereto by the force of its elasticity. It will be perceived that this definition precludes the application of the term to the movement of a pendulum, as it is frequently and loosely so applied. The error lies in the fact that whilst the pendulum moves bodily its particles are relatively at rest, or practically so, and do not determine the motion as in vibration. Strictly speaking, then, a pendulum swings or oscillates, but does not vibrate.

In the vibration of stringed instruments the sound heard is not that of the string itself, which, apart from the sound-board of the instrument to which it is attached, and to the larger surface of which it communicates its own vibration, is too slight to be heard at all, or at most only faintly. The reason assigned is, that the slender body of a string lets the air slip round it, and so hinders rarefaction, at the same time that by the larger surface of a sounding-board of piano, fiddle, or whatever the instrument may be, this tendency of the air is overcome. I venture to think that this explanation hardly goes far enough. If I may hazard a conjecture, the explanation why a string fails to make itself heard is not merely that the air slips round it on account of its slenderness, but further, because, being slender, greater velocity than what is possible to it by the force of vibration is needful to effect discontinuity or vacuefaction—simple rarefaction, which it undoubtedly effects, being the extent of its power in this direction. Given sufficient velocity to a string, as, for example, in the crack of a whip, sound enough and to spare will follow. In the case of a whip, if I mistake not, the report emanates from the whipcord attached to the end of the thong, the thinnest part of the whip, and the point where the velocity of the operation would appear to culminate. Here we have an instance of a string yielding a loud, and oftentimes a very loud, sound with no sounding-board to account for it. Evidently this comes from great velocity being imparted to the cord or string, and consequent high degree of vacuefaction.

THE VOCAL ORGANS.

The vibrate sound of the voice is caused by the action of two elastic membranes, placed in what is called the larynx, through which structure the air-passage is continued from the windpipe. The edges of these membranes are placed in line with each other, the air passing between them, and they can be readily brought nearer together or closed and opened as required, somewhat after the manner of the lips. In the state of rest and untension they are drawn apart, allowing the breathing to go on without let or hindrance. Then, in order to bring them into action, they are subjected to tension, and the space between the two edges diminished by their nearer approachment, so that the air, in passing through the straitened orifice thus formed in its direct path, sets the opposing membranes perforce a-vibrating.

We have seen, in reference to the working of stringed instruments, that the sound heard is not that of the string itself, but that in reality it proceeds from the larger surface of the instrument, the string being the moving and regulating medium. The case appears to be similar with the vocal membranes in regard to their action on the windpipe. The vocal membranes, being brought into play in the way described, communicate their own action directly to the connected windpipe and larynx, which, by the cartilaginous nature of their substance, being well adapted for the purpose, are made to vibrate accordingly. As in all other cases of vibration with due velocity, the effect is to separate the solid vibrating substance from the contiguous air with each recurring motion, the vibration of the solid being met by the resilience of the fluid, so here the same process takes place within the walls of the vibrating air-passage—the outgoing air corresponding in effect with its precedent impulse and impress from within.

NON-VACUUM SOUNDS.

Non-vacuum sounds are such as are brought about by simple disturbance of the air. In short, all sounds of motion and commotion outside the foregoing division, from which they are distinguished by want of the same clearness. Generally speaking, all obscure and invibrate sounds that produce the idea of motion and disturbance without breach of continuity in the air belong to this class. The rushing of the wind and the sound proceeding from a pair of bellows are examples in point of fact.

Bearing in mind that sound is motion conveyed from without, and received by the ear as an impress of the originating motion, we may perhaps be able, by careful attention to the initial working, to gain an inkling as to the reason for the marked contrast existing between the two classes of sounds, even though we may not hope to find this out to perfection. I may be allowed to suggest—for one can only conjecture on this point—as to the cause, that clear or vacuum sounds may possibly result in part from the *stapes* before mentioned being drawn or jerked from the fenestræ ovalis, against which it is said to rest its free end, and upon which it may act in some sort as a damper while so resting. Otherwise the reason for its base being thus left free seems by no means obvious. On the other hand, obscure or non-vacuum sounds may be due to want of force to raise this damper, if such it be.

CHAPTER II.

LOUDNESS.

Loudness, in the first place, is in proportion to the degree in which vacuefaction is produced, depending chiefly upon the velocity of the active cause or sounding body. Other things being equal, the loudness will be in ratio with the amplitude of the vacuum. Or velocity being the same, loudness will increase as amplitude becomes greater. But greater velocity combined with less amplitude will, within certain limits, exceed in loudness greater amplitude with less velocity.

CHAPTER III.

PITCH.

THE string of a musical instrument properly stretched and set into motion vibrates a certain number of times in a second, the number of its vibrations being in proportion to the length and tensity of the string between its stretching points, and in inverse ratio with the length. The shorter the string the greater the number of vibrations.

If the length of such a string be reduced by half, the number of vibrations under same tension will be doubled, forming what is termed in music the octave of the pitch of a string twice its own length. All other intervals upon which the harmony of music is based result in the same way from difference in vibrational number. Thus pitch denotes the relative frequency of vibration, or the duration of separate sounds. The greater the frequency of vibration in a given time the higher the pitch, frequency or duration being to pitch what velocity is to loudness.

It is to be observed that pitch is maintained independently of increasing or diminishing velocity and loudness. This fact seems on first thoughts just a little puzzling to account for, as it would only be natural to suppose that increased velocity would carry with it increased frequency of vibration, or that it would raise the pitch. The explanation is, that when a string vibrates with accelerated speed it strikes out further and covers a wider space. The amplitude is greater. As velocity gradually diminishes the amplitude, by way of compensation, becomes less, so that the frequency of recurrence or pitch continues throughout unchanged.

VOCAL PITCH.

Different theories have been proposed to account for vocal pitch. At present the more generally received opinion appears to be in favour of what may be termed the tension theory, attributing all changes of pitch to variations in the tension of the vocal membranes. Experimentalists have devised a means intended to represent the supposed action of the vocal organs in this respect. Two slips of indiarubber are placed over the end of a tube with an opening between them, blowing through which is said to cause them to vibrate musically. Then by varying the degree of tension of the same the pitch varies accordingly. So far so good; but, as regards the object to be illustrated, I have reason to think that this experiment is misleading. Taking into account the flexibility and power of adjustment possessed by the vocal organs, as compared with the rigid tube in question, very little analogy will be seen to exist between the two cases. The conclusion based on this experiment appears to be contrary to a very simple fact which goes to show that the vocal membranes not only play a subordinate part in regard to pitch, but that pitch is producible independently of them, and even while they are silent. The fact alluded to is that of invibrate pitch as in whispering, in which the pitch may be varied correspondingly as in vibrate, or, as it is commonly called, musical pitch. Of course in whispering or in invibrate speech the vocal membranes are in abeyance, so that then, at all events, pitch is independent of their concurrence, and shows the common theory on this point to be wrong. Any one so disposed may verify the statement in the way described, or by running over the scale both ways, vibrately and invibrately.

Having, as I trust satisfactorily, demonstrated how pitch is not formed, and by so doing narrowed the limits of the inquiry, the question still remains as to how or by what means it is formed. Without attempting to answer this precisely, I think we shall not be far off the mark if, in general terms, we set the cause down to enlargement and contraction of the cavity of the larynx, while the windpipe varies its length and also to some extent its width. Probably all these are contributory elements in determining the result. In whistling the method is analogous. Thus in high notes the tongue is pressed forward towards the lips, reducing the cavity. The pitch, on the other hand, is lowered as the tongue recedes and the cavity of the mouth enlarges, while the opening and tension of the lips, which form the vibrating medium, only alter slightly, and so as to adapt themselves to the altered circumstances in the inner working described—the movements, in fact, of the parts, whether vocal or whistling, being conformable and synchronous throughout.

The falsetto voice, the cause for the production of which forms another bone of contention with writers, seems not unlikely to be due to a nearer approach together of the vocal membranes, possibly closing up at the extremities, with consequent lessening in the length of the opening between them. An inference from which, it may be observed by the way, is that in ordinary and proper vibration the space between the vibrators may be greater than what is thought by some to be the case.

CHAPTER IV.

CHARACTER.

If sound, apart from character, be the unformed material of speech, then by the same token character distinctions of sound are comparable to the differences of form, by which objects alike in material are distinguished, and thus character and form will be corresponding terms.

Character is that peculiarity of sound or effect by which the elements of speech are individualised and distinguished from each other. Dependent and consequent upon formation, it is the very life of the whole thing. Without it there might be sound and melody, but not speech; in which event mankind, to communicate their ideas, if under such conditions they possessed any, would have to resort to such incoherent devices as might be suggested.

Between the sounds, moreover, of different kinds of musical instruments the distinction is one of character, as, for example, between the sound of a piano and that of a flute. Of each of these instruments, though possessed of variety in pitch and quality, the character is uniform. To speech, however, belongs variety in character as well as in pitch and quality.

CHARACTER FORMATION.

If it be desired to produce the characteristic sound indicated by any given symbol, it can be done only by shaping the vocal organs into a particular form or configuration corresponding to such sound, and to be effected by means of a certain muscular action, wonderfully designed and nicely adapted to that end. Take, for example, the formation commonly represented by the letter v; and if, by way of a simple experiment, we pronounce v*e*, or, better still, v simply, we perceive by the feeling accompanying the operation that the lips assume a distinctive form, attended by a certain degree of tension. The conformation in this instance is well marked and easily perceived. The experiment may be varied by placing the finger lightly over both lips, horizontally, so as partly to cover them while repeating the process, the result being perceived by the touch. Simple as this experiment is, it will illustrate the formative principle upon which our conclusions are to be founded; on which principle, as stated, every element takes a form peculiar to itself, and by which it is more or less distinguishable from every other. The formations are likewise marked by different degrees of tension or stringency, while their action differs also, all these distinctions serving to confirm their individuality. Plainly, therefore, the elements, being derived each from a distinct formation, will be limited in number by the possible number of separate formations. Thus it becomes an all-important consideration to discriminate the formations, the true elements, with certainty; for on no other principle but that of formation can speech be accurately represented in writing. Failing to account for a single element, we have by so much a false standard, like a footrule that is defective in the matter of inches. Of course the elements and their symbols should invariably correspond, each element having its recognised symbol, and being always represented by the same one, and by no other. Were the contrast in all combinations as evident as, for example, in v*e*, the case would be simple enough; but the fact is, as will be perceived in due course, that there are combinations in which the contrast and contact is so much less apparent as to be detected only by the closest attention. Then, again, a character which is readily identified in one combination is often in another only to be perceived obscurely. A beautiful feature is indeed observable in connection with this circumstance in the blending together of simple sounds so naturally as to render the transition from one to another mostly imperceptible. It is this power of union and gradation of parts which renders natural pronunciation smooth, flowing, and coherent.

Simple elements may be known by the fact of their indivisibility. The formation v again, for example, may be sustained for an indefinite length of time, the characteristic sound continuing the same to the end. On the contrary, in combined sounds the character is ever changing as one formation succeeds another.

THE ELEMENTS OF SPEECH,

OR CHARACTER FORMATIONS AND MODIFICATIONS.

Vibrate.			Invibrate.		Mute.	
b	b*e*	1			p	p*e*
w	wei	2	wh			
g	gei	3			k	kei
y	yei	4	yh			
d	d*e*	5			t	t*e*
e	*e*	6	*e*h			
ur	*ur*r	7	*ur*h			
a	*a*r	8	*a*h			
or	*or*r	9	*or*h			
u	*u*	10	*u*h			
v	v*e*	11	f	ef		
r	rei	12	rh			
g	e*g*	13	*g*h			
zh	zhei	14	sh	esh		
z	z*e*	15	s	es		
i	ip	16				
e	ep	17				
a	ap	18				
o	op	19				
u	up	20	h	eitsh		
m	em	21	mh			
l	el	22	lh			
ng	e*ng*	23	*ng*h			
th	thei	24	*th*	e*th*		
n	en	25	nh			

The foregoing table should be studied with the help of the Word List coming after, by which means the proper import and application of the elements may be duly apprehended. The two together might almost for practical purposes be left to tell their own story without comment. Indeed they contain abundance of materials for investigation relative to the general subject of language, outside and beyond our present design, and upon which much learning, though not always, it is to be feared, guided by or largely tending to enlightenment, has been bestowed.

The table is believed to represent the elements of all languages, and not merely of any one in particular. On what grounds this belief in its universal applicability is founded I will explain; otherwise it is just possible that I may be accused of something very like presumption, if not, in fact, of downright heresy, in opposing the opinions of the authorities for the time being in matters alphabetic. On this point I will simply state a few general reasons for the conclusion arrived at. I am stating now the grounds of my own belief only, and, of course, it remains for others to judge for themselves as to the sufficiency or otherwise of these grounds. It is open for some one to object that I am writing without knowing certain languages in which the objector is or is reputed to be a proficient or even an authority, and such a one may tell us that he is cognisant of sounds not here accounted for. And not unlikely he might be able to bring forward an array of authorities, and so attempt to prove his case by a concurrence of opinion. I am, however, encouraged to distrust by anticipation this sort of argument, from the simple reflection that when writers, whether authorities on foreign languages or no, have come to try their hands on the language of their own country, say of some well-known European language, they have, strange to tell, failed one and all to define or fix upon its elements. And so it happens that to this day no language is truly represented in writing. Now if a man cannot discriminate the elements of his own tongue, it is certainly justifiable to doubt his claim to the discovery of peculiar elements elsewhere, or other than those belonging to a common stock.

In what, then, does the distinction between different languages consist, seeing that the elements are alike? It consists mainly in variety of combination. One language is differently compounded from another. Some elements are used more often in one than in another, and it may be, too, that an element is not brought into use at all in the speech of some nations. For instance, the element th (24), so frequent and serviceable in English, is apparently dormant in the French tongue. Then, as to combination, we know that French again is strongly characterised by what are called nose sounds, and these result from compound formation, the peculiar and marked effect of which is produced at the point of contact between the elements that go to make up the compound. The compounds referred to do not occur in English, and hence their strange effect upon English ears. They are the following, namely:—*urng* (7–23), *ang* (8–23), *orng* (9–23), *ung* (10–23). The effect of contact and of the gliding of one formation into another should ever be borne in mind in the consideration of these matters. A formation may produce a distinct and full effect in one combination, whereas, being differently situated, and but just slightly and almost imperceptibly impinged upon, the effect will be correspondingly obscure. The latter is notably the case with the open formations in certain unaccented positions.

A strong motive for regarding the foregoing elements taken together as a finished work is to be found in the fact of their complete sufficiency for the evident object for which they were intended in the production of speech. Add to this and other considerations the symmetry exhibited by the parts as a whole when placed together in their relative positions one over against another, and the evidence seems to point pretty conclusively in favour of the fact contended for. And not only is it remarkable to observe how naturally each element falls into its proper place in the general plan and disposition of the parts, forming as they do an unbroken square of twenty-five units, but practically this knowledge as to the disposition of parts and of their relation to each other in the general economy is of great advantage in many respects, and a good deal of assistance is derivable therefrom in the matter of spelling.

Our next move will be to examine somewhat closely the elements, in order first to their identification, and then as to their nature and application. As to the appropriation of letters to particular characters, I have had to make the best use I could of those at present available. It is to be hoped, however, that the time is not far off when the task of producing fresh symbols, better adapted to the wants of the age, will be undertaken, each formation as the result finding a single and distinct symbol. The existing letters are too complicated; there are too many twists and turns about them, too much work for the hand to effect without undue loss of time in writing, while in reading excessive labour, wear and tear, and fatigue fall to the part of the eyes. I regret to have been obliged in several instances to use double letters to symbolise single formations, but this appears unavoidable at present without a sacrifice of clearness, and our regret may be diminished if we regard their use as transitional. What is to be closely watched for is to see that the symbols being once fixed upon, each one invariably represents the same formation in respect of the revised spelling, wherever and in whatever combination it is met with. This is the severe and only test of true spelling.

The elements are of three kinds, vibrate, invibrate, and mute. The two last, as far as regards formation, being simply modifications of the first named, which we will consider first and apart, as being in effect by far and away superior to the rest. Speech might indeed be very well carried on with the vibrates alone, though it would be wanting in that contrast of light and shade and the more varied effects due to the admixture of the superior and inferior elements of the threefold nature of which it is constituted.

THE VIBRATES
IN FOLDING SQUARE TABLE, ARRANGED ACCORDING TO FORMATION, ACTION, AND SOUND.

Lip.					b	*u*	v	u	m
1st intermediate.					w	*or*	r	o	l
Throat.					g	*a*	*g*	a	*ng*
2d intermediate.					y	*ur*	zh	e	th
Palate.					d	*e*	z	i	n
1	10	11	20	21	Stringent	Contractile	Concentrate	Loose	Flexible
2	9	12	19	22					
3	8	13	18	23					
4	7	14	17	24	Stroke	Sonorous	Rolling	Clear	Damped
5	6	15	16	25					

The vibrates consist of five fives or five natural divisions, each of five formations.

Of the stringents, 1 to 5, and the loose formations, 16 to 20, the sounds are short. The sounds of the rest are long.

STRINGENTS (1 to 5).

These do not require to be separately identified here. The same quick action and consequent short sound like the beat of a drum is common to them all. As far as tension or muscular action goes, they are the strongest of all the formations. Hence the term stringent applied to them. It is to be observed that w, g, y, are never finals, the natural law in pronunciation apparently being for strong formations to lead and for weak ones to follow. The fact that b and d occur as finals in many words only proves them to be relatively weaker than the three other members of this division. They don't, however, make good finals, and seem rather out of place as such, their action being both naturally strong and adverse to subsiding, without leading or opening up to something else. The action of the stringents further suggests the idea of a bow-string in the act of shooting. Their function is to make headway for the open and larger formations. It would be easy to recall instances of words that have b and d written as finals, but where in pronunciation they seem to be instinctively dropped.

CONTRACTILES (6 to 10).

For powerful effect the chief formations are those comprised within this division, and as stars of the first magnitude in the vocal plan, it need hardly be said that their accurate identification is a matter of paramount importance; for which purpose I would recommend a careful study of the Word List. Their tension is less marked and more gently contractile than in the case of the stringents so called. The action, too, is quite different in the two cases, for whilst with the stringents, in its impulsive nature, it is a sort of short spring or kick off, with the contractiles the tendency is to prolong the tension and maintain the formation, resulting in a relatively longer sound.

Having no proper symbols wherewith to represent them, italic letters corresponding with the letters of the other division of open formations, with one letter more, are made use of, and are to be considered, to all intents and purposes, equivalent to distinct symbols, regardless of the different signification attaching to their non-italicised congeners.

e (6). What has just been said about action will, it is hoped, help to settle any doubts that may remain as to the distinction between this element and No. 4, y, about which there has long been, and for aught I know still is, a difference of opinion, it being erroneously maintained by some that the sounds of the two are identical. *e* (6) is a true final or subsident.

ur (7), *a* (8), *or* (9). These symbols are by no means chosen on the ground of strict appropriateness, but rather on that of expediency, the formations here symbolised by them being the same as they frequently represent in current use. The symbol *a* (8) will do very well without the *r*, but the other two elements would run the risk of being misunderstood without it, until they become clearly identified. Thus *ur* (7) is one symbol, denoting a single and indivisible formation, and should not be mistaken for the separate symbols u (20) and r (12). The same caution is to be observed with *a* (8) and *or* (9), in regard to a (18), o (19), and r (12) respectively.

How it happens that in the spelling of English, as of various other languages, we find the same inevitable conjunction with r in the representation of the three characters in question remains to be explained, though we have not far to look for the explanation. First of all, it should be observed that these characters, *ur*, *a*, *or* (7, 8, 9), are never finals in English; and, secondly, that only certain formations follow the same connectedly and naturally. Thus u (20), which is a final, readily follows any one of them, as *or*u (=9–20), for instance. But what is natural to u (20) as a final is not so to its proximate o (19), a medial. Now as r (12) unites perfectly with the open medials, it enters as a connecting-link between them in circumstances where u (20) is precluded. This is notably the case at the end of words, for u (20) will not of itself finish a word without a break if the next word begins with another open formation, and there we find r (12), if not forcibly suppressed, comes in to meet the difficulty and obviate the break or hiatus.

u (10). A similar doubt exists or has existed on the subject of w and *u* (2 and 10) to that mentioned above in reference to y and *e* (4 and 6). It need only be said that the two cases are analogous, and that the distinction is equally perceptible in both couples.

A few formative indications will be useful relative to the contractiles.

e (6) in respect of formation is not unlike i (16). There is a similar upward movement of the tongue; but in the case of the contractile *e* (6) the tongue approaches nearer the palate, its action at the same time being denoted by a firmer pressure than in the other case.

For *ur* (7) the tongue is more or less rounded and drawn back from the teeth, with occasionally a tendency of the lower jaw to advance, in which case the sound, if it be sustained, becomes somewhat calflike in quality.

For *a* (8) the tongue is both more rounded and drawn still further back, the mouth being opened wider.

Pronounce *or* (9) straight off from the *a* (8) formation, and it will be found that the tongue retains nearly if not quite the same conformation, but that the lips now come into play, slightly rounding by contractile action.

Pronounce *u* (10) in like manner straight from the *or* (9) position and the tongue advances, while the lips contract still more.

Thus 9 overlaps 10, and both in turn are overlapped by 8.

CONCENTRATES (11 to 15).

Here we have a third variety of elements, the action of which is of a somewhat violent nature, comparatively speaking. The vibration seems to be thrown forward and brought, as it were, more to a focus within the mouth. They are close formations, the passage of egress being narrowed. The sound is of a rolling character, contrasting in this respect with the clearer and more unfettered ring of the open formations.

v (11). Though not restricted to any position, v is by nature best adapted to follow an open formation or to serve as a final or subsident.

r (12). Of r the chief purpose is unmistakably that of an intervenient link to maintain the continuity between formations of the open sort which do not coalesce of themselves. Its coalescence with these is often so perfectly and almost unconsciously performed that some writers have even mistaken the r for part and parcel of the contractile *a* (8), and of which they go so far as to tell us that it constitutes the tail. It is subjoined to several close formations, but in good English r never immediately precedes one. Herein lies a glaring defect in Scotch and Irish pronunciation, namely, in running r on to a following close formation, and also in making it final. In English it is seldom or never final, that is to say, where there is a pause or stop, and it only ends a word when the next word begins with an open formation, as explained above. But here, on the other hand, in conventional or artificial English it is too often ousted from its proper place in favour of the antagonistic h, of which more anon. And, what is worse, it is continually being dropped, and that without reason, where no h comes in to warrant the omission. If one element be more important than another where all are so necessary to completeness, certainly r is the chief of the close formations, and not the least musical of them, and to supersede it from the due exercise of its proper function can hardly be otherwise than detrimental to the language, of which the less the natural freedom of working be interfered with the better.

g (13). The existence of this character in English never seems to have been even so much as suspected, it being hopelessly confounded with g (3), from which, however, it is quite distinct. For as b is to v, so is g (3) to *g* (13), the contrast being analogous in the two cases. The sound of g (3), like the sounds of b and d, is a nose sound, the passage through the mouth being closed, and the character is only maintained while this closure continues; and though the act of its production leads to the passage being opened, it is only to give place to some other formation. For *g* (13), on the other hand, the passage is open as for v. Again, in *g* (13) the sound may be prolonged indefinitely, while the sound of g (3), like the other characters of the class to which it belongs, is always short. In the utterance of g (3) the closed passage through the throat may be felt to open, and if pronounced in a whisper a slight click is heard, both of which indications are absent in the case of *g* (13). Moreover, g (3) is initial or precedes an accent on the open, and is never final. Contrariwise, *g* (13) works best as a medial, and is often final. Here are some examples of both from the Word List:—

g (3) is found in bigan, giv, gathu.
g (13) is found in fi*g*z, e*gza*umpl.

zh (14). Often associated with d, to which it is subjoined, this formation is properly a medial; and though commonly found also as a final, it is not used initially in English.

z (15). The above remarks concerning v will apply likewise to this character.

THE LOOSE FORMATIONS (16 to 20).

Of the two kinds of open formations, perhaps for general utility the loose formations, which now in regular order call for treatment, might be awarded the preference. If those of the first division referred to are, as we remarked, as stars of the first magnitude, then these are as the lesser lights in the vocal system, luminous, but fleeting in their nature. In plain words, the sounds of the characters under consideration are clear but of short duration. They comprise the second of the two divisions of short sounds. The term loose applied to them is relative to their greater freedom in contrast with the comparatively more rigid action of the preceding elements. Their formation comes nearer to the point of rest, and the hold upon them being slight, the operation is the sooner performed, and hence a short sound as the result. With the contractiles it is otherwise. Their construction appears somewhat more elaborate, and the departure from the state of rest or untension greater; while the operation being thus necessarily longer of accomplishment, the sound is relatively of longer duration in consequence, and by reason of the firmer grasp continuable at will.

i and u (16 and 20) belong to the class of formations which, in conformity with the general plan, seem peculiarly adapted for finals. More subdued in tone as compared with the initials and medials, the finals are better suited to tone down and round off the finish, or to make it more gradual and free from abruptness. They are not, however, restricted in use in this respect. The rule appears to be that the characters specially adapted for finals are also available for general use. We see this exemplified in regard to i and u, though these are best suited to unaccented positions, and when the accent falls upon them the effect is inferior to that produced by the medials or definite accentuals of this division.

E, a, o (17, 18, 19), are properly medials, though in practice they take also the place of initials; but they are never finals, in this last respect differing totally from i and u. A further important distinction lies in the fact that e, a, o, are the natural and dominant accentual formations, and as a general rule, subject to not a few exceptions, they seem to carry the stroke or accent over everything else. And as far as I can see at present, they are not properly pronounceable without a certain degree of accent, except when one of the weaker open formations is affixed to them; as, for instance, in ei, where the i seems to lessen the force of e.

As far as my observation goes, e, a, o, do not approach each other nearer in the same word than into the position of fourths, or within a like distance of the principal open accent. Perhaps an exception is to be found where an invibrate intervenes and brings them up to the distance of thirds. Or the intervention of one of the weaker open formations in the manner just described may have the same effect.

The following are formative indications for this division:—

i (16). In the formation of i, if the finger be placed flat on the tongue while the combination ip is pronounced, the tongue will be felt to make a considerable movement upwards, becoming rounded into and in conformity with the palate, but without pressing against it. Then, the finger being withdrawn and the mouth closed, we shall find by repeating ip that the concurrence of the lips is denoted by a slight opening. The p mute serves to give direction; and having, as the term signifies, no sound of its own, it is the most suitable of formations to set off the characters of this class. And furthermore it leaves uncomplicated the tongue movement described.

e (17). Repeating the process with e, we find a similar but less considerable upward movement and rounding of the tongue in the utterance of ep, while the concurrent opening of the lips is greater.

a (18). With a again the tongue is almost quiescent, while the lips open still more than for the two previous elements.

o (19). The same experiment with o is marked by a tendency of the tongue to rise, but further back towards the throat. There is now a decrease in the width between the lips, which for this class attain their relatively widest opening in a.

u (20). Last in order comes u, the simplest of all the formations, the slightest opening of the mouth, without any perceptible motion or tension of the tongue, being sufficient for its production—in fact, just the natural conformation of the organs in the state of rest, only with the vibrators set in motion. For which cause we need not wonder at the frequency with which this character comes into play, the proneness to it being as to a centre of gravity.

These are relative indications of what, as regards the concurrence of mouth and tongue, are loose formations. When, for instance, the tongue is described as remaining still during the utterance of u, the best available indication is thereby given of this formation. But it is not necessary that the tongue should so remain, for it may be variously placed or contorted without materially affecting the result. For the real character formation is probably and chiefly the work of the organ called the larynx, though the tongue itself, if unconstrained, will give some such indications of the more inner working as those described. It is desirable that this point should be clearly stated, since too much reliance is often placed upon the position of the tongue. It is pretty evident that something more is wanted to furnish the distinctive sounds of the class under consideration than is referable to the loose and possibly variable conformation of tongue and mouth. When, therefore, we speak of formations as loose, the reference is to the indications named.

That the mouth and tongue are contributory agents is not to be doubted; and especially is this noticeable in the formation of the more rigid elements; as, for instance, in the case of those styled concentrates, where the vibration is perceptibly thrown forward. But in none of them is anything like absolute rigidness to be expected, and some allowance should be made for modification, always remembering that it is the broad character formation that is to be or that can be represented in writing. To attempt more in spelling is vain and useless. For example, the term lip formations made use of is not to be too implicitly relied upon for supposing the elements so designated to be formed exclusively or even chiefly by the agency of the lips, but it is rather to be taken as denoting more or less of contributory action on the part of the lips, and as a convenient indication by which to distinguish and classify them.

FLEXIBLES (21 to 25).

The formations of this class are characterised by comparative freedom from tension, while the sound is somewhat subdued.

m (21). As between m and u (21 and 20), in a formative sense, where the one leaves off the other begins, and so nearly one are they that almost the only distinction is in respect of the lip modification; otherwise the condition is the same in both, and we may consider m (21) as little else than u (20) damped.

l (22). We have a striking instance in l of the flexible nature and modifying power of the class to which it belongs. L has hitherto been classed with r, a totally different character, and, as we have seen, quite dissimilar in its intention. The l formation or modification is denoted by the end of the tongue being placed in contact with the roof of the mouth, an opening being left on each side of the tongue while the exit over the end of it is closed. Yet the tongue may be left so flexible that the point can be drawn back into the hollow or brought forward to the teeth, or even between them, with little variation in the result. A greater peculiarity, however, consists in the fact that each of the loose formations (16 to 20) can be uttered and distinguished while the tongue is held in the l position. The same thing is experienced in a less perceptible degree in connection with the other flexibles, which thus share the peculiarity. This favours the idea that the flexibles have their basis in the loose formations. The accepted and ancient theory that all the close formations are formed from the open formations probably owes its origin to this near relationship of loose and flexible formations, but which of itself hardly warrants the application of the theory all round; for if its application to the flexibles be admitted, there are at least two plausible reasons for its being so accepted, firstly, by reason of the character sounds being distinguishable in the manner described, and secondly, because the transition from loose to flexible, or, to put it in another way, the modification of the loose by the flexible, leaves the tension or absence of tension pretty much unchanged; while, as regards the elements of other classes, the formation seems to differ radically with difference of tension and action.

ng (23). This was one of the several elements which on the distribution of letters got overlooked, and have ever since been sailing under false colours. It is a somewhat stubborn element of its kind, the least flexible of the flexibles. Unlike the other characters of its class, it does not take to the initial position at all. Its place seems to be immediately after the accent, or as a medial requiring a certain degree of force for its production. Thus in the word si*ng* it comes out readily enough, but in si*nging* we find that, the second i being unaccented, n (25) takes the place of *ng* (23) after it in natural, inartificial, and unconventional pronunciation. As a matter of fact, such words as singing, willing, and the like are by the generality of persons pronounced si*ng*in, wilin, and so on.

th (24). The th formation is frequent as a medial, but is rarely used vibrately as a subsident—in the latter respect giving way to its corresponding invibrate, as in the similar case between zh (14) and its invibrate.

n (25). As a perfect subsident n is well fitted to occupy the last place in the arrangement.

THE ARRANGEMENT OF THE VIBRATES.

Before proceeding further it may be as well to say a word or two as to the divisional arrangement.

What has been said about the close formative relationship existing between u (20) and m (21) shows the two divisions containing these fundamental or simplest of formations to be inseparable.

Then, as to the order of separate elements, a key to this is to be found in the manner in which the loose formations join each other. Thus i and e always precede u conjunctively, and, as we have seen, u is so completely a final that it unites with no succeeding open formation whatever.

Again, the formative resemblance in some respects between the stringents and contractiles brings these two divisions naturally together. Compare w (2) and *u* (10), for instance, and y (4) and *e* (6).

Furthermore, to place the two open classes together, while it would be wrong in itself, would be to mar the natural symmetry of the arrangement, and to give to it a lopsided appearance.

SLIDING TABLE OF THE VIBRATES.

Initials or Stroke Formations.	Medials.				Finals or Subsidents.			
b					*u*	v	u	m
w	*or*	r	o	l				
g	*a*	*g*	a	*ng*				
y	*ur*	zh	e	th				
d					*e*	z	i	n

This threefold division of the vibrates into initials, medials, and finals shows the previous square table slided, otherwise the relative positions are seen to be the same in both.

There is no gainsaying the title of leaders to the first division. They are well fitted to lead up to or to usher in the more loud-sounding open formations intended to follow. They insure the vibrators being properly brought into play before the break open, and by their close nature likewise economise the breath. For what people call sounding their eitshes often means an inordinate escape of breath, and consequent loss of motive-power into the bargain, because the break open occurs before the vibrators are brought into play. The initial or stroke formations serve as moderators to obviate this waste of power.

Of the medials, as already intimated, the most appropriate setting in combination is intermediately between the stroke formations and subsidents.

As to the finals or subsidents, notwithstanding that they are found abundantly in all positions, their special function is that designated by the term applied to them, as shown by the readiness and frequency with which they fall in at the wind up, in contrast with the more or less general want of adaptability in this respect on the part of the elements of the other two divisions of this table.

THE INVIBRATES.

As regards formation, the invibrates are simply modifications of the vibrates. The formation is the same, excepting that the action of the vibrators is suspended, and the breath, being unimpeded and unregulated by their intervention, issues with increased force and volume, a rushing sound, varying in degree of intensity, being the consequence. The vibrators are relieved of their task, but, by way of compensation, there is a greater expenditure of breath. From a glance at the Word List, however, it is evident that the invibrates and mutes are not by any means always interchangeable with the vibrates, nor are they subject to the same restrictions as those we have observed to exist relative to the proper place of the vibrates in combination. But seemingly their more ubiquitous nature enables them often to supply the place of their corresponding vibrates in positions repugnant to the latter.

The invibrates are divisible into—

CONTINUANT;
THOROUGH;
ANTECEDENT.

CONTINUANT INVIBRATES.

The continuant invibrates comprise—of the open formations—

*e*h (6h), *ur*h (7h), *a*h (8h), *or*h (9h), *u*h (10h).

Of the close formations—

mh (21h), *ng*h (23h), nh (25h).

Their peculiarity consists in this, that the pronunciation beginning in the vibrate passes from it into and is continued in the invibrate modification of the same formation; as, for example, in the German mich = m*e*h (21–6h).

An instance in which m undergoes this change into mh is found in the interjection of what is sometimes clumsily indicated by humph! but which would be more properly signified by mh!

THOROUGH INVIBRATES.

The thorough invibrates comprise the close formations—

wh (2h), yh (4h), f (11h), rh (12h), *g*h (13h), sh (14h), s (15h), lh (22h), *th* (24h).

By the term thorough it is intended to signify that the characters so denominated are invibrate throughout. As component parts in the general assemblage of elements of which speech is made up they are highly serviceable. If not a musical family, their defect in this particular serves to set off and to heighten by contrast the effect of their more melodious correlatives of the vibrate order.

But we must discriminate, for they are not all equally commendable. Out of the nine elements, only four of them are directly used in English, namely, f (11h), sh (14h), s (15h), *th* (24h).

The explanation why these four are found so serviceable seems to be that by reason of their closer formation, a moderate expenditure of breath and motive-power is sufficient to render them effective, the effect being, so to speak, more commensurate with the cost of production. On the other hand, in the production of rh (12h) and lh (22h) the wider opening of the outlet seems to be felt instinctively as a reason for their being neglected. But though not used directly as invibrates, these two elements become so by the force of circumstances or by the accident of position, as when immediately preceded by a mute, which has the effect of restraining the vibrators from getting to work, till the r or l formation, as the case may be, has ceased to exist. Such are accidental invibrates, many examples of which will be found in the Word List. It may be taken as a rule that a close formation following a mute is constrained thereby to become invibrate, and that open formations under the like conditions become partially so. But l when subsident or final is partly vibrate.

wh (2h) is accidental.

yh (4h) does not occur in English.

*g*h (13h) is a direct invibrate, and exists in the Spanish language, in which it is represented by the letters j and x.

lh (22h), known as ll, is directly invibrate in Welsh, and is of course the same in formation as the accidental lh just described, only that the character is more marked apart from the influence of a preceding mute.

ANTECEDENT INVIBRATE.

In the antecedent invibrate commonly known by the letter h we have a rather unthankful subject for treatment. To many it is a stumbling-block, while in others it gives rise to or increases a propensity to affectation, which evils are not likely to be diminished unless some change is made in the uncertain fashion at present pertaining to its use. The fact that h is used before certain open formations and not before others proves, if proof be needed, that its application is simply capricious and uncertain. Take, for instance, the two words happiness and apple. In the nature of things there is really no reason why the open formation a, common to both, should be preceded by h in the one case and not in the other, or why, on the other hand, the h should not be dropped in both cases. The mistakes that are made are owing in great measure to this irregular, if not fortuitous, bestowal. To complete the confusion, we find there is what is called the silent h, a well-devised trap for the unwary beyond which the spirit of mischief or misdirected ingenuity has as yet apparently failed to signalise itself.

But if the mischief alluded to be, as stated, chiefly due to the uncertainty of its application, the origin of the h is by no means altogether attributable to arbitrary initiative. Those who have carefully studied the preceding pages may remember what was said about certain of the open formations never being prefixed to certain others. Now u (20) is remarkable in this respect, for it not only coalesces with no following open formation, but it happens, moreover, to be one of the most frequent of finals, and as such is often liable accidentally to confront an open formation at the beginning of a succeeding word. When this takes place there are three ways commonly and naturally presented to solve the difficulty and obviate a break—by the eitsh transition, by the intervention of r (12), or, lastly, by the substitution of *u* (10) for u (20). One of these three things generally happens under the circumstances, and follows as a natural consequence, whether consciously or not, to the speaker. Therefore, when people are heard to sound the eitsh contrary to conventional usage, the reason commonly is, that having dropped the r or having omitted to substitute *u* (10) for u (20), they are impelled unconsciously to the remaining h solution of the difficulty The manner in which r, in particular, intervenes between the open formations to maintain unbroken the flow and continuity of speech should be carefully observed.

Moreover, all words beginning with open formations are liable to develop the eitsh or antecedent invibrate, which fact goes to confirm the truth of what I have been contending for, namely, that in strictness open formations require to be led up to, and that the less they are left unprotected the better.

Now as to the remedy for the state of things complained of. I will only just throw out a hint in passing on this point; and whether, therefore, this eitsh is to be accounted an advantage to the language, and to be fostered accordingly, or whether, on the contrary, it be only detrimental to freedom of utterance or as giving rise to constraint and affectation in speaking, I leave for the present to the decision of others. The suggestion to be made is this: seeing that the open formation on which the eitsh falls is marked by accent, and seeing further that emphasis and accent on the open tend to develop the eitsh, might it not be made a rule to use it before all words beginning with an accented open formation, or say before the open medials, and so at least do away with the uncertainty that exists for want of a rule to go by? We will not stay to inquire how far such a rule would work, or what exceptions, if any, might be needful, or whether it be desirable thus to make the use of h more frequent, or if, after all is said, its use were not better discontinued after the example of certain other nations in this respect.

As to the formation of this eitsh, it seems to be that of the open formation to which it is antecedent and through which the breath is forced before the vibrators are brought into operation. Before the contractiles it probably begins through the natural loose formation preceding them.

Properly speaking, the symbol of invibration, h, or whatever it may be, should not be taken to represent formation, but simply as denoting modification in reference to the suspension of vibrate action, and in the nature of the sound.

THE MUTES.

The mutes are three in number, p, k, t. It is in combination that their effect is perceived, and it is a mistake to speak of their sound, for they have none. They modify the sound of the element with which they are brought into contact, and they are the natural full stops by which the breath is completely shut off and all sound suspended.

We shall not be far off the mark if we describe them as modifications of the three corresponding stringents, of which they are strongly suggestive, being attended by a similar but more abrupt action in opening and closing. The stringents, however, b, g, d, are only half-stopped formations, the stoppage being of the passage through the mouth, while the nose passage is left open, and it is through this that the sound is heard. On the opening of the mouth the stringent is at an end, and whatever sound is then heard is to be set down to the succeeding element. The effect, therefore, of the mutes is due to abruptness in opening and closing the air-passage. With the mutes the list of modifications is complete. Without them b, g, d, would remain unrepresented in this respect, since they are the only vibrates unsusceptible to the invibrate modification.

ON THE NAMES OF THE ELEMENTS.

That the element to be named should be applied in the name to be given to it will be readily admitted; and provided its sound or effect be thus made clearly perceptible, it is neither necessary nor desirable in all cases, blindly or without regard to other considerations, to place the element first in the name by which it is to be known. Nor should the same monotonous ending be adopted throughout, as appears to be the case with some alphabets. And further, the names should be both short and simple.

Simpler names than those here proposed could not well be provided, while in several instances the same names are adopted as those by which the letters are at present known.

e and *u* (6 and 10) are best sounded alone without addition in naming. Practically, these are the only two elements of which this can be said.

ur, *a*, *or* (7, 8, 9) have, as explained, so strong a tendency to run into r (12) that it is best, in the interests of practical spelling, to recognise the fact and turn it to account, as we have here done in naming these elements. Only it should be pointed out to the learner that r (12) is a distinct addition and not a part of the elements in question, as appears to be erroneously supposed in regard to *a* (8). To this end he should be taught to repeat them both with and without the r addition.

g (13). Now that we have, so to speak, unearthed this element, it should be carefully distinguished by name from g (3), with which it has hitherto been hopelessly confused. The name e*g* here proposed for it will do this effectually. To prefix the element to be named in this instance would be unadvisable, seeing that in practice it is seldom, if ever, so heard, though

I think children may be sometimes heard to use it initially instead of g (3). It is not well for the sake of an unreasoning desire for uniformity to leave the sound of it a puzzle to many, both teachers and pupils, with a strong probability that in the end the pronunciation would degenerate into something quite different from what it should be.

zh (14). Though zh is not used initially in English, there need be little difficulty in hitting it off in zhei, only it should not be confused with the compound dzh.

i to u (16 to 20). The rule to go upon in naming is that both open and close formations should be joined with their opposites. Thus an open formation is best set off when joined with a close one; for which cause, in naming the loose formations, I have affixed p to them, than which a better element for the purpose need not be wished. Certainly in my own experiments I have found it a convenient and even a necessary adjunct.

If the grammars are to be trusted, the open formations should be sounded alone, while in the names by which the five letters that belong to this category are now distinguished, only a simple uncombined sound is heard in each. But of the close formations, we are told in effect that in order to be sounded they must be joined to an open formation. Now in reality every one of the sounds, whether open or close, is soundable by itself, apart from combination, though in practice this would be found more or less inconvenient with all but the two exceptions *e* and *u* (6 and 10) pointed out above.

To show the fallacy of the doctrine in one of these particulars, the names are here introduced by which the five letters referred to are known, and from which it will be perceived that what, in naming, we in our credulity have been taught to consider as simply elementary sounds, are, with one exception, actual combinations of two sounds.

Letters	i	e	a	o	u
Current Names	*ai* (8–16),	*e* (6),	ei (17–16),	*ou* (19–10),	*yu* (4–10)

By what process of development or otherwise the letters have come by these names we will not stay to inquire; and how far the discrepancies exhibited are consistent or not with the doctrine of simple sounds only being heard in the naming will now be sufficiently apparent.

m to n (21 to 25). The current names by which three of the flexibles m, l, n, are known cannot well be improved upon, and should not be needlessly disturbed. Considering their place in the general scheme, it seems to have been by a happy instinct that they were set to follow in the name combinations by which they are known. With *ng* (23), at all events, to attempt to apply it initially would probably be attended with a deal of vexation, ending in failure, while the attempt would be the further undesirable since no word in English begins with *ng*.

f (11h), sh (14h), s (15h), *th* (24h). To only these four of the invibrates do I propose to give names, as, for obvious reasons, it would be worse than useless to perplex the English learner with names for more of them. But in spelling the corresponding vibrate for the others can be named with eitsh, the name of the general invibrate symbol. Thus for lh say el eitsh. The names adopted are again in accordance with those in present use.

CONCERNING NEW LETTERS.

In anticipation of new letters or symbols being provided, and bearing in mind the fact that formatively each vibrate with its corresponding invibrate is one, subject to a generally applicable modification, I would suggest that to indicate this oneness, and as being most in accordance with the fitness of things, that both should be represented by the same letter, the invibrate being distinguished by the addition of a general h symbol or sign of modification and invibration.

On this plan twenty-five letters would be wanted for the vibrates, but only one general symbol for all the invibrates.

Thus if v be the vibrate, then vh (=f) will be the corresponding invibrate.

With the mutes the case would be similar, taking them as simply modifications of the stringents b, g, d.

Thus if x be taken as the general mute symbol, then we have—

Vibrates.	**Mutes.**	
b	bx	(=p).
g	gx	(=k).
d	dx	(=t).

Altogether twenty-seven letters or symbols would thus suffice.

WORD LIST.

(MATT. I.–X.)

B

be,
bi, } *be.*
bein, *being.*
ben,
bin, } *been.*
bet, *beat.*
bem, *beam.*
burudz, *birds.*
buruth, *birth.*
burun, *burn.*
bai, *by.*
baunz, *barns.*
boruduz, *borders.*
borun, *born.*
braidgrum, *bridegroom.*
braidtsheimbu, *bridechamber.*
brorud, *broad.*
brorut, *brought.*
bring, *bring.*
bringith, *bringeth.*
bred, *bread.*
breik, *break.*
brethrin,
brethurin, } *brethren.*
bras, *brass.*
bruthu, *brother.*
bruthuz, *brother's.*
biweu, *beware.*
bigat, *begat.*
bigan, *began.*
bikoruz, *because.*
bikumith, *becometh.*
biyond, *beyond.*
bidn, *bidden.*
bitrheid, *betrayed.*
bihaind, *behind.*
biforu, *before.*
biforuln, *befallen.*
bisetshin, *beseeching.*
bisorut, *besought.*
bihould, *behold.*
bihouldist, *beholdest.*
bilt, *built.*
bilev, *believe.*
bilevd, *believed.*
biluvd,
biluvid, } *beloved.*
bed, *bed.*
betu, *better.*
beri, *bury.*
beu, *bear.*
beu, *bare.*
baptaiz, *baptize.*
baptaizd, *baptized.*
baptizum, *baptism.*
bodi, *body.*
botlz, *bottles.*
bouth, *both.*
boru,
borou } *borrow.*
buk, *book.*
but, *but.*
bushl, *bushel.*
blaind, *blind.*
blausfemith, *blasphemeth.*

bliu, *blew.*
bles, *bless.*
blesid, *blessed.*
blak, *black.*
blud, *blood.*
pepl, *people.*
pes, *piece.*
pes, *peace.*
pesmeikuz, *peacemakers.*
purudzh, *purge.*
purufikt, *perfect.*
purusikiut, *persecute.*
purusikiutid, *persecuted.*
purusiz, *purses.*
purulz, *pearls.*
pauts, *parts.*
pauthz, *paths.*
poru, *poor.*
porulzi, *palsy.*
prhetsh, *preach.*
prhetshin, *preaching.*
prhests, *priests.*
prhipeu, *prepare.*
prhivili, *privily.*
prhizuruvd, *preserved.*
prhizentid, *presented.*
prhizn, *prison.*
prhins, *prince.*
prhinsiz, *princes.*
prhei, *pray.*
prhei-ist, *prayest.*
prhousedith, *proceedeth.*
prhofit, *prophet.*
prhofits, *prophet's.*
prhofisaid, *prophesied.*
prhofitubl, *profitable.*
prhuvaid, *provide.*
prhufes, *profess.*
piuu, *pure.*
pinukl, *pinnacle.*
perish, *perish.*
perisht, *perished.*
peid, *paid.*
peurunts, *parents.*
pauu, *power.*
pas, *pass.*
past, *passed.*
publik, *publick.*
publikunz, *publicans.*
put, *put.*
putith, *putteth.*
pu-forum, *perform.*
pu-zest, *possessed.*
pul, *pull.*
plhezd, *pleased.*
plheis, *place.*
plhentius, *plenteous.*
plhuk, *pluck.*

W.

we, } *we.*
wi, }
wepin, *weeping.*
wet, *wheat.*
wuruk, *work.*
wuruks, *works.*
wurukmun, *workman.*
wurud, *word.*
wuruship, *worship.*
wurushipt, *worshipped.*
wurus, *worse.*
wuruld, *world.*
wuruthi, *worthy.*
wai, *why.*
waid, *wide.*
wait, *white.*
waif, *wife.*
waifs, *wife's.*
waiz, *wise.*
wail, *while.*
wailz, *whiles.*
waild, *wild.*

wain, *wine.*
woruk, *walk.*
worukin, *walking.*
worutu, *water.*
worund, *warned.*
witsh, *which.*
wiu, *where.*
wil, *will.*
wildunis, *wilderness.*
wilt, *wilt.*
wilin, *willing.*
with, *with.*
within, *within.*
withaut, *without.*
withusouevu, *whithersoever.*
windz, *winds.*
west, *west.*
wei, *way.*
weivz, *waves.*
weu, *were.*
weuwith, *wherewith.*
weuwithorul, *wherewithal.*
weuforu, *wherefore.*
wel, *well.*
wethu, *whether.*
wen, *when.*
went, *went.*
wot, *what.*
wotsouevu, *whatsoever.*
wosh, *wash.*
wouz, *was.*
woun, *one.*
wounz, *ones.*
wud, *would.*
wumun, *woman.*
wulvz, *wolves.*
wunduf l, *wonderful.*

G.

gurudl, *girdle.*
gaumunt, *garment.*
gaunu, *garner.*
gorin, *going.*
grevusli, *grievously.*
greips, *grapes.*
greit, *great.*
graund, *ground.*
gras, *grass.*
grou, *grow.*
git, *get.*
giv, *give.*
givith, *giveth.*
givn, *given.*
gifts, *gifts.*
geit, *gate.*
geiv, *gave.*
gathu, *gather.*
gathud, *gathered.*
gou, *go.*
gouist, *goest.*
gouith, *goeth.*
gould, *gold.*
gospl, *gospel.*
gon, *gone.*
gud, *good.*
guvunu, *governor.*
kwhikli, *quickly.*
kurus, *curse.*
kaust, *cast.*
kaustin, *casting.*
kaustith, *casteth.*
kaum, *calm.*
koruz, *cause.*
koruzith, *causeth.*
korul, *call.*
koruld, *called.*
korunuz, *corners.*
krhaid, *cried.*
krhai-in, *crying.*
krhorus, *cross.*
kiubit, *cubit.*
kil, *kill.*
king, *king.*

ki*ng*dum, *kingdom.*
kept, }
kep, } *kept.*
keis, *case.*
keim, *came.*
k*au*ntinuns, *countenance.*
k*au*nsl, *council.*
karid, *carried.*
kari-in, *carrying.*
kamlz, *camels.*
kan, }
khn, } *can.*
kn, }
kanst, *canst.*
kanut, }
k*au*nt, } *cannot.*
kandl, *candle.*
kandlstik, *candlestick.*
k*ou*t, *coat.*
k*ou*sts, *coasts.*
k*ou*ld, *cold.*
kup, *cup.*
kut, *cut.*
kuvud, *covered.*
kustum, *custom.*
ku-rupt, *corrupt.*
kum, *come.*
kumist, *comest.*
kumi*th*, *cometh.*
kumin, *coming.*
kumfut, *comfort.*
kumfutid, *comforted.*
kuntrhi, *country.*
khmpel, *compel.*
khmpashun, *compassion.*
khmaund, *command.*
khmaundid, *commanded.*
khmaundmunts, *commandments.*
khmiunikeishun, *communication.*

khmit, *commit.*
khmiti*th*, *commiteth.*
khmitid, *committed.*
khnfes, *confess.*
khnfesin, *confessing.*
khns*e*vd, *conceived.*
khns*u*runin, *concerning.*
khnsidu, *consider.*
khnsidurist, *considerest.*

Y.

ye, *ye.*
yoru, *your.*
yoruselvz, *yourselves.*
y*u*, }
yu, } *you.*
yit, *yet.*
yiuz, *use* (vb).
yei, *yea.*
yiuz, }
yeuz, } *years.*
you*ng*, *young.*

D.

dwelt, *dwelt.*
d*a*ivuz, *divers.*
d*a*uknis, *darkness.*
doru, *door.*
dorutu, *daughter.*
d*u*, }
du, } *do.*
d*u*ist, *doest.*
d*u*i*th*, *doeth.*
drem, *dream.*
dri*ng*k, *drink.*
dzhuruni, *journey.*
dzh*o*ri, *joy.*
dzhenu-reishun, *generation.*
dzhot, *jot.*
dzhudzh, *judge.*

dzhudzhd, *judged.*
dzhudzhmunt, *judgment.*
dzhust, *just.*
dip*a*ut, *depart.*
dip*a*utid, *departed.*
did, *did.*
div*or*ust, *divorced.*
div*or*usmunt, *divorcement.*
diz*e*z, *disease.*
diz*e*ziz, *diseases.*
diz*e*zd, *diseased.*
disp*a*iz, *despise.*
disp*a*itfuli, *despitefully.*
distr*or*i, *destroy.*
distrhukshun, *destruction.*
di-s*a*iplz, *disciples.*
disfig*u*, *disfigure.*
di-sendin, *descending.*
di-sendid, *descended.*
dim*a*undid, *demanded.*
dilidzhuntli, *diligently.*
diliv*u*, *deliver.*
din*a*i, *deny.*
ded, *dead.*
dets, *debts.*
detuz, *debtors.*
devl, *devil.*
deiz, *days.*
deili, *daily.*
deindzhu, *danger.*
de*th*, *death.*
d*a*un, *down.*
dash, *dash.*
doktrhin, *doctrine.*
dougz, }
dogz, } *dogs.*
duv, *dove.*
dust, *dust.*
dum, *dumb.*
du*th*, *doth.*
dun, *done.*

dl*or*ri, *glory.*
dl*or*rif*a*i, *glorify.*
dl*or*rif*a*id, *glorified.*
dlad, *glad.*
twhein, *twain.*
twhelv, *twelve.*
tetsh, *teach.*
tetshin, *teaching.*
te*th*, *teeth.*
turun, *turn.*
turund, *turned.*
t*a*im, *time.*
t*or*il, *toil.*
t*or*ut, *taught.*
t*or*umunts, *torments.*
t*or*umentid, *tormented.*
tu, *two.*
tumz, *tombs.*
tu*th*, *tooth.*
trh*e*z, *trees.*
trhi*u*li, *truly.*
trhezhuz, *treasures.*
trhespusiz, *trespasses.*
trhampl, *trample.*
trhodn, *trodden.*
trhubld, *troubled.*
trhumpit, *trumpet.*
tsh*e*k, *cheek.*
tsh*e*f, *chief.*
tsh*a*ild, *child.*
tshildrun, }
tshildun, } *children.*
tsh*a*ildz, *child's.*
tsch*a*udzh, *charge.*
tsh*a*udzhd, *charged.*
tshi*u*, *cheer.*
tshaf, *chaff.*
titl, *tittle.*
til, *till.*
testimuni, *testimony.*
teik, *take.*

teikin, *taking.*
teikn, *taken.*
teiki*th*, *taketh.*
tempist, *tempest.*
templ, *temple.*
temt, *tempt.*
temtid, *tempted.*
temteishun, *temptation.*
temtu, *tempter.*
tel, *tell.*
taun, *town.*
tould, *told.*
tolurubl, *tolerable.*
tu,
tu, } *to.*
tugethu, *together.*
tuk, *took.*
tudei, *to-day.*
tutsh, *touch.*
tutsht, *touched.*
tumoru,
tumoro*u*, } *to-morrow.*
tlhen, *clean.*
tlh*o*r*u*th, *cloth* (sb).
tlhiuli, *clearly.*
tlhenz, *cleanse.*
tlhenzd, *cleansed.*
tlho*u*k, *cloke.*
tlho*u*th, *clothe* (vb).
tlho*u*thd, *clothed.*
tlho*u*thin, *clothing.*
tlhozit, *closet.*

E.

he,
hi, } *he.*
hed, *heed.*
et, *eat.*
eti*th*, *eateth.*
evl, *evil.*
evn, *even.*
eziu, *easier.*
est, *east.*
hel, *heal.*
helin, *healing.*
held, *healed.*
ethu,
*a*ithu, } *either.*
hethn, *heathen.*

Ur.

h*u*ru, *her.*
h*u*ruself,
hu-self, } *herself.*
h*u*rud, *heard.*
h*u*rud, *herd.*
*u*ru*th*, *earth.*

A.

ai, *I.*
ai, *eye.*
aiz, *eyes.*
hai, *high.*
au, *are.*
aut, *art.*
haut, *heart.*
hauvist, *harvest.*
auftu, *after.*
auftuwud, *afterward.*
ausk, *ask.*
auski*th*, *asketh.*
aumz, *alms.*
haumlis, *harmless.*
aunsurin, *answering.*
aunsud, *answered.*

Or.

*o*ru,
*o*rr, } *or.*
*o*rut, *ought.*
*o*ruf, *off.*
*o*ruft, *oft.*

orul, *all.*
orultu, *altar.*
orulredi, *already.*
orulsou, *also.*
oruthoriti, *authority.*

U.

hu, *who.*
huz, *whose.*
husouevu, *whosoever.*
hum, *whom.*

V.

vurudzhin, *virgin.*
vaipuz, *vipers.*
vaiuluntli, *violently.*
voris, *voice.*
vilidzhiz, *villages.*
veri, *very.*
verili, *verily.*
vein, *vain.*
veuriuns, *variance.*
valyu, *value.*
fedith, *feedeth.*
fet, *feet.*
fevu, *fever.*
feld, *field.*
furust, *first.*
furustborun, *firstborn.*
faind, *find.*
faindith, *findeth.*
faiu, *fire.*
faust, *fast.*
faustid, *fasted.*
faustist, *fastest.*
fauthin, *farthing.*
fauthu, *father.*
foru, } *for.*
fu, }
forubad, *forbad.*
forugiv, *forgive.*
forugivn, *forgiven.*
foruten, *fourteen.*
foruti, *forty.*
forusweu, *forswear.*
forul, *fall.*
foruls, *false.*
forulsli, *falsely.*
foruth, *forth.*
forunikeishun, *fornication.*
ful, *fool.*
fulish, *foolish.*
freli, *freely.*
friuts, *fruits.*
frangkinsens, *frankincense.*
from, } *from.*
frum, }
fiu, *few.*
figz, *figs.*
fish, *fish.*
fishuz, *fishers.*
fizishun, *physician.*
fiu, *fear.*
fiuful, *fearful.*
fius, *fierce.*
fil, *fill.*
fild, *filled.*
feisiz, *faces.*
feim, *fame.*
feith, *faith.*
feintid, *fainted.*
fel, *fell.*
faulz, *fowls.*
faund, *found.*
faundid, *founded.*
farusez, *pharisees.*
fan, *fan.*
foksiz, *foxes.*
fouz, *foes.*
folu, } *follow.*
folou, }

folud,
foloud, *followed.*
folouith, *followeth.*
fut, *foot.*
futstul, *footstool.*
ful, *full.*
fulfil, *fulfil.*
fulfild, *fulfilled.*
fle, *flee.*
floru, *floor.*
fled, *fled.*
fludz, *floods.*

R.

rep, *reap.*
redzhun, *region.*
rait, *right.*
raitin, *writing.*
raitshus, *righteous.*
raitshusnis, *righteousness.*
raiz, *rise.*
rauthu, *rather.*
roruth, *wrath.*
roruth, *wroth.*
rut, *root.*
ruf, *roof.*
rum, *room.*
ribiukt, *rebuked.*
riworud, *reward.*
ripent, *repent.*
ripentuns, *repentance.*
ridzhoris, *rejoice.*
ridzhorist, *rejoiced.*
riturun, *return.*
ritn, *written.*
riul, *rule.*
riulu, *ruler.*
riuluz, *ruler's.*
riveld, *revealed.*
rivail, *revile.*
rizist, *resist.*
riset, *receipt.*
risev, *receive.*
risevd, *received.*
risevith, *receiveth.*
rimembrist, *rememberest.*
repitishunz, *repetitions.*
rekunsaild,
reknsaild, *reconciled.*
reiz, *raise.*
reizd, *raised.*
reimunt, *raiment.*
rein, *rain.*
rein, *reign.*
rend, *rend.*
rent, *rent.*
raund, *round.*
ravnin, *ravening.*
ran, *ran.*
rok, *rock.*
rust, *rust.*
runith, *runneth.*

Sh.

she,
shi, *she.*
shep, *sheep.*
sheps, *sheep's.*
shain, *shine.*
shuz, *shoes.*
ship, *ship.*
shepud, *shepherd.*
sheik, *shake.*
shadu,
shadou, *shadow.*
shal, *shall.*
shalt, *shalt.*
shou, *shew.*
shouith, *sheweth.*
shud, *should.*
shudist, *shouldest.*
shut, *shut.*

S.

sw*a*in, *swine.*
sweu, *swear.*
spek, *speak.*
spekin, *speaking.*
speki*th*, *speaketh.*
sprhed, *spread.*
sprhu*ng*, *sprung.*
spirit, *spirit.*
spin, *spin.*
speik, *spake.*
sparuz, sparouz, *sparrows.*
sp*ou*kn, *spoken.*
sk*ur*udzh, *scourge.*
sk*or*un, *scorn.*
skrh*ai*bz, *scribes.*
skrhip, *scrip.*
skatud, *scattered.*
step, *steep.*
stel, *steal.*
stau, *star.*
strhets, *streets.*
strheit, *straight.*
strheit, *strait.*
strheitwei, *straightway.*
strheitli, *straitly.*
steivz, *staves.*
statshu, *stature.*
standin, *standing.*
st*ou*nz, *stones.*
stud, *stood.*
se, *sea.*
se, *see.*
sein, *seeing.*
sei*th*, *seeth.*
sen, *seen.*
sek, *seek.*
seki*th*, *seeketh.*
sekrhit, *secret.*

s*ur*upnt, *serpent.*
s*ur*utsh, *search.*
s*ur*utn, *certain.*
s*ur*uv, *serve.*
s*ur*uvnt, *servant.*
s*ur*uneim, *surname.*
s*ai*d, *side.*
s*or*u, *saw.*
s*or*ud, *sword.*
s*or*ut, *sought.*
sik, *sick.*
siknis, *sickness.*
siknisiz, *sicknesses.*
sit, *sit.*
sitin, *sitting.*
siti, *city.*
sitiz, *cities.*
si*u*, *sue.*
silvu, *silver.*
si*ng*l, *single.*
sinz, *sins.*
sinuz, *sinners.*
sinugogz, *synagogues.*
sed, *said.*
set, *set.*
seti*th*, *setteth.*
sei, *say.*
sei-in, *saying.*
seik, *sake.*
seiv, *save.*
seivin, *saving.*
seivd, *saved.*
seivu, *savour.*
seim, *same.*
selfseim, *selfsame.*
se*th*, *saith.*
send, *send.*
sendi*th*, *sendeth.*
sent, *sent.*
sad, *sad.*
sady*u*sez, *sadducees.*

sat, *sat.*
sakrhifais, *sacrifice.*
saund, *sound.*
sand, *sand.*
sou, *so.*
sou, *sow.*
soul, *soul.*
sould, *sold.*
souldzhuz, *soldiers.*
solt, *salt.*
soltid, *salted.*
sutsh, *such.*
sufishunt, *sufficient.*
sufu, *suffer.*
sufud, *suffered.*
su-liut, *salute.*
sun, *son.*
sun, *sun.*
smait, *smite.*
slep, *sleep.*
slepith, *sleepeth.*
sliu, *slew.*
sntiuriun, *centurion.*

I.

hipukrhits, *hypocrites.*
hid, *hid.*
it, *it.*
itself, *itself.*
hiun, *hewn.*
if, *if.*
ishiu, *issue.*
iz,
z, } *is.*
s,
hiz,
iz, } *his.*
z,
s,
ispauzd, *espoused.*
iu, *ear.*
hiu, *hear.*
hiurith, *heareth.*
hiurof, *hereof.*
him, *him.*
him self, } *himself.*
imself,
i-medzhutli, *immediately.*
hil, *hill.*
hithu, *hither.*
in, *in.*
inwudli, *inwardly.*
inkwhaiu, *inquire.*
inkwhaiud, *inquired.*
inded, *indeed.*
indiurith, *endureth.*
intu, } *into.*
intu,
inturuprhitid, *interpreted.*
infurumitiz, *infirmities.*
insoumutsh, *insomuch.*
inikwiti, *iniquity.*
inerit, } *inherit.*
inherit,
i-nuf, *enough.*

E.

ek-sed, *exceed.*
eksedin, *exceeding.*
ek-sept, *except.*
hed, *head.*
evu, } *ever.*
ivu,
evuri,
evri, } *every.*
ivuri,
ivri,
hevn, *heaven.*

hevnz,	*heavens.*
hevnli,	*heavenly.*
egzaumpl,	*example.*
eibl,	*able.*
heit,	*hate.*
heitid,	*hated.*
eimen,	*amen.*
aumen,	
einzhul,	*angel.*
eu,	*air.*
heu,	*hair.*
hem,	*hem.*
hel,	*hell.*
els,	*else.*
end,	*end.*
endid,	*ended.*
entu,	*enter.*
entud,	*entered.*
hens,	*hence.*
eni,	*any.*
enimi,	*enemy.*
enimiz,	*enemies.*

A.

aks,	*axe.*
ad,	*add.*
adid,	*added.*
had,	*had.*
advuseri,	*adversary.*
at,	*at.*
ut,	
hau,	*how.*
aut,	*out.*
autu,	*outer.*
auu,	*hour.*
auu,	*our.*
haus,	*house.*
haustops,	*housetops.*
hausould,	*household.*
haus hould,	
hav,	*have.*
ev,	
uv,	
v,	
havin,	*having.*
az,	*as.*
uz,	
hast,	*hast.*
am,	*am.*
m,	
haloud,	*hallowed.*
halouid,	
angri,	*angry.*
hath,	*hath.*
uth,	
hand,	*hand.*
and,	*and.*
an,	
un,	
n,	

O.

ou,	*O.*
oubei,	*obey.*
oupnd,	*opened.*
oupnli,	*openly.*
outhz,	*oaths.*
ouvu,	*over.*
houm,	*home.*
houl,	*whole.*
houlz,	*holes.*
ould,	*old.*
hould,	*hold.*
houli,	*holy.*
oun,	*own.*
ounli,	*only.*
ov,	*of.*
uv,	
ofisu,	*officer.*
ofu,	*offer.*
on,	*on.*

U.

u, } *a.*
un, } *an.*
ubtein, *obtain.*
u-baid, *abide.*
u-brorud, *abroad.*
u-baut, *about.*
up, *up.*
u-pon, *upon.*
u-piu, *appear.*
u-piurith, *appeareth.*
u-piud, *appeared.*
u-poslz, *apostles.*
u-wei, *away.*
u-wouk, *awoke.*
u-gre, *agree.*
u-gen, *again.*
u-genst, *against.*
u-korudin, *according.*
u-dulturi, *adultery.*
utumoust, *uttermost.*
uvn, *oven.*
u-freid, *afraid.*
u-fend, *offend.*
u-raiz, *arise.*
u-rouz, *arose.*
u-reid, *arrayed.*
huzbund, *husband.*
us,
s, } *us.*
u-stonisht, *astonished.*
u-said, *aside.*
u-slep, *asleep.*
u-mung, *among.*
u-loun, *alone.*
hunggu, *hunger.*
hunggud, *hungered.*
uthu, *other.*
uthuwaiz, *otherwise.*
unkwhenshubl, *unquenchable.*
undzhust, *unjust.*
undu, *under.*
untu,
untu, } *unto.*
until, *until.*
untlhen, *unclean.*
u-norint, *anoint.*
huni, *honey.*
u-nuthu, *another.*

M.

me,
mi, } *me.*
mek, *meek.*
met, *meat.*
met, *meet.*
met, *mete.*
menz, *means.*
menith, *meaneth.*
muru, *myrrh.*
murusi, *mercy.*
murusifl, *merciful.*
mai,
mi, } *my.*
mait, *might.*
maitiu, *mightier.*
mail, *mile.*
main, *mine.*
maindid, *minded.*
mauvld, *marvelled.*
maustu, *master.*
maustuz, *masters.*
moru, *more.*
morrouvu, *moreover.*
morun, *mourn.*
morunin, *mourning.*
muvd, *moved.*
midst, *midst.*
minstrhilz, *minstrels.*
ministud, *ministered.*
met, *met.*

mezhu, *measure.*
mezhud, *measured.*
mei, *may.*
mek,
meik, } *make.*
meiki*th*, *maketh.*
mekin,
meikin, } *making.*
meid, *made.*
meid, *maid.*
membuz, *members.*
men, *men.*
mendin, *mending.*
meni, *many.*
m*au*th, *mouth.*
m*au*ntin, *mountain.*
mari, *marry.*
mamun, *mammon.*
man, *man.*
man z,
manz, } *man's.*
manu, *manner.*
mokt, *mocked.*
m*ou*t, *mote.*
moru,
moro*u*, } *morrow.*
mothu, *mother.*
mo*th*, *moth.*
mutsh, *much.*
multiti*u*dz, *multitudes.*

L.

led, *lead.*
ledi*th*, *leadeth.*
lev, *leave.*
levi*th*, *leaveth.*
levin, *leaving.*
lest, *least.*
l*u*run, *learn.*
l*a*ik, *like.*
l*a*ikn, *liken.*
l*a*iknd, *likened.*
l*a*it, *light.*
l*a*itin, *lighting.*
l*a*if, *life.*
l*a*i-in, *lying.*
l*a*i-i*th*, *lieth.*
l*a*uft, *laughed.*
l*o*rinz, *loins.*
l*o*ru, *law.*
l*o*rud, *lord.*
l*o*rust, *lost.*
l*u*z, *lose.*
l*u*zi*th*, *loseth.*
litl, *little.*
li*u*nutik, *lunatick.*
liv, *live* (vb.)
liliz, *lilies.*
lepu, *leper.*
lepuz, *lepers.*
leprusi, *leprosy.*
led, *led.*
let, *let.*
left, *left.*
lest, *lest.*
lei, *lay.*
leid, *laid.*
leiburuz, *labourers.*
lethun, *leathern.*
laminteishun, *lamentation.*
land, *land.*
l*ou*, *lo.*
l*ou*kusts, *locusts.*
l*ou*n*g*, *long.*
luki*th*, *looketh.*
luv, *love.*
luvi*th*, *loveth.*
lust, *lust.*

Th.

the, *thee.*
thez, *these.*

th*ai*, *thy.*
th*ai*self, *thyself.*
th*ai*n, *thine.*
this, *this.*
thithu, *thither.*
thei, *they.*
theu, *their.*
theuz, *theirs.*
theu, *there.*
theu*for*u, *therefore.*
theurat, *thereat.*
theurof, *thereof.*
them,
thum, } *them.*
um,
thumselvz, } *themselves.*
them selvz,
then, *then.*
thens, *thence.*
thens*foruth*, *thenceforth.*
that, } *that.*
thut,
tha*u*, *thou.*
than, } *than.*
thn,
tho*u*z, *those.*
thu,
thi, } *the.*
the,
thus, *thus.*
*the*vz, *thieves.*
*thur*ust, *thirst.*
*thor*ut, *thought.*
*thor*unz, *thorns.*
thriu, *through.*
thriuaut, *throughout.*
*th*riuli, *throughly.*
*th*roun, *throne.*
thislz, *thistles.*
*thing*k, *think.*
*thing*z, *things.*

N.

ned, *need.*
nethu, } *neither.*
n*ai*thu,
n*ai*t, *night.*
n*oriz*, *noise.*
noru, *nor.*
ni*u*, *new.*
ni*u*, *knew.*
net, *net.*
nevu, } *never.*
nivu,
nests, *nests.*
nei, *nay.*
neibu, *neighbour.*
neim, *name.*
neimz, *names.*
neimd, *named.*
na*u*, *now.*
naru, } *narrow.*
naro*u*,
nashin, *gnashing.*
nok, *knock.*
noki*th*, *knocketh.*
not, } *not.*
nt,
notwi*th*standin, *notwithstanding.*
no*u*, *no.*
no*u*, *know.*
no*uith*, *knoweth.*
nouin, *knowing.*
noun, *known.*
nou*thing*k, } *nothing.*
nou*th*ing,
numbud, *numbered.*

The Word List is not composed merely of so many words selected and strung together in arbitrary fashion, but is made up of the words contained in the first ten chapters of the New Testament, to which, so far, it forms an index or analytical table of word constituents. The first five chapters supplied about three-fifths of the number. If a word occurred as a plural the first time it was met with, the rule was to enter it as such. Lastly, the new and old spellings are placed together, like truth and error confronting each other.

With the elements now unmistakably made known we are in a position to deal with their combination in the shape of words. The plan of the edifice, so to speak, being marked out and the foundation securely laid, we have only to set about raising the superstructure in due order.

At starting we have to consider what to do in the case of words the pronunciation of which is fluctuating. To reduce a language to writing we should have some guiding principle to go upon in discriminating between differences of this kind in order to fix on the word form most proper or desirable to be embodied in writing.

Now the only standard that I know of to be adopted, if the full benefit of the proposed reform is to be reaped, is to be looked for in the generally prevalent, natural, and unconstrained pronunciation of the day. Pronunciation, when unconstrained, being the exercise of a natural function regulated by or tending to follow certain natural laws of affinity and repulsion in regard to combination, the true basis of spelling is to be sought for in the concurrent pronunciation of large numbers of persons who, more or less unconscious of or indifferent to the form, and thinking only, if at all, of the matter of their words, allow free play to the instinctive and natural operation of the vocal machinery, thus constituting themselves undesignedly, though nevertheless incontestably, the best authorities on the subject in question. And though the exigencies of set speaking and of continuous writing may lead to and warrant the employment of numerous words not commonly heard in conversation, yet we must be on our guard against trusting to the pronunciation of public speakers, however able or learned they may be, for many of them, and men of high position and culture, are, it must be said, notwithstanding very shaky in this particular.

THE CHIEF OPEN COMBINATIONS.

Contractile to Loose.

*ur*u (7–20), *a*u (8–20), *or*u (9–20), *a*i (8–16), *or*i (9–16).

Loose to Contractile.

i*u* (16–10), a*u* (18–10), o*u* (19–10).

Double Loose.

iu (16–20), eu (17–20), $\underbrace{\text{ei (17–16), ou (19–20).}}_{\textbf{Proximates.}}$

To make the case with regard to the open combinations as clear as possible the above list of the chief of them culled from the Word List is inserted; and seeing that this particular matter has ever been a cause of perplexity, it will doubtless interest many to know the nature and extent, or nearly so, of such combinations as far as relates to the English language.

The two last combinations in the list, ei (17–16) and ou (19–20), are analogous.

On the combination ei (17–16) the learned appear to have been much exercised in the past. The fact is that the two formations of which the combination is made up are formatively so close together, and the blending of the one with the other in the act of pronunciation is so gradual, as to leave a degree of apparent oneness of sound sufficient to render the combination easily mistakable for a simple element. This apparent oneness arising from proximity in the formative system of elements disposes of the contention of those who would represent the combination by ai (18–16), for the greater formative distance between a and i precludes the idea of a like oneness of sound to that referred to. Yet ai (18–16) is not an impossible combination, and may, I think, be heard in country dialects. Those, however, who can hit off the two combinations for themselves will not need further evidence of the distinction.

The combination ou (19–20) can only be distinguished from a simple element by the closest attention. The similar difficulty in the previous case is here intensified owing to the gradation being of so subtile and fleeting a nature as to all but defy detection. Till now apparently the composite nature of the sound has escaped notice completely. It occurs only seven times in the Word List, in words which nevertheless are in very common use, though comparatively few in number. They are the following seven words :—

wouz, woun, wounz, dou*g*z,
you*ng*, lou*ng*, nou*thing*.

The combination is, in fact, heard in the correct pronunciation of these words—correct, that is, because warranted by prevalent usage. But then, instead of ou (19–20), simply o (19) or u (20) is sometimes substituted. Thus, to take only two of the above seven words, the variations heard are—

woun, wun, won,
nou*thing*, nu*thing*, no*thing*,

the latter word also varying in its final.

Contrast—

wun = won (pret. and pp. of *win*).
woun = one.
wundufl = wonderful.

There is a double contractile combination *oru* (9–10) to be heard in the long drawn out exclamation = O! Another instance of a double contractile *au* (8–10) is found in German in the word haus. And, if I mistake not, writing from distant recollection, the French have an instance of the same in *ure* (7–6) = œil.

Two words much confused in pronunciation are the words passed and past. Here is the proper distinction to be observed—

past = passed (the past participle).
p*a*ust = past (adj.)

If two spellings of council and counsel are to be fostered, they should be—

ka*u*nsil = council.
ka*u*nsl = counsel.

Examples of word variations are inserted below to show the effect of accent on pronunciation, and consequently the importance of this consideration in spelling. Moreover, it seems not unlikely that with pronunciation and spelling brought into agreement the marks for accents and other signs in which compilers of grammars and word-books now find their pastime may be rendered superfluous. Obviously there will be no need of extraneous marks for longs and shorts.

The examples referred to, of which the first couple are not to be found in the Word List, are these—

khntrhakt = contract, vb. *to draw closer, to shrink.*
kontrhakt = contract, vb. *to bargain*, sb. *an agreement.*
t*or*umunt (sb.)
t*or*ument (vb.)

Some words have both accented and unaccented forms. Thus ov = of is the more or less accented, and uv the unaccented, form of this preposition. Of the conjunction and, the forms—

and, an } are the accented or strong forms.
un, n } are the unaccented or weak forms.

The variations exhibited in the next examples will show the need for caution in regard to supposed analogies—

y*or*uselvz (pl.), yu-self (sg.), more rarely y*or*uself.
einzhul (sb.), andzhelik (adj.)
a*ng*ri (adj.), a*ng*gu (sb.)

In regard to the substitution of -in for the -i*ng* termination of the present participle of substantives, the motive for the change was stated previously when it was shown from common experience that -*ing* gave way to -in in unaccented final positions. Had -*ing* when so placed not been in a false position, we may rely upon it that -in would long ago have been beaten in the contest between the two terminations, from the fact of the spelling being all in favour of -*ing*. There is little doubt that -*ing* as a participial and substantival ending is, to use a term applicable here, though much out of place when applied, as it frequently is, to natural changes in the forms of words, a corruption of something or other, probably originated as a mere device of the enemy, namely, some writer or grammarian of a bygone age, hard pressed for an inflectional termination. Its use in the circumstances, being more or less forced, is opposed to unconstrained pronunciation, and, all things considered, the proper course appears to be to recognise the superior claims of -in to preference, instead of continuing to ignore the fact of its greater prevalence. For my part, I could not, consistently with the views herein expressed, do otherwise than adopt -in as I have done throughout the Word List, while believing, moreover, that its proper recognition will be for the general advantage in the removal of a troublesome anomaly. Otherwise the present irregularity of having two finals is likely to continue so long as -*ing* continues to be fostered artificially and in spite of natural causes to the contrary, denoted by its comparatively intractable behaviour in respect of the position designated.

eimen is chiefly used in speaking.
*a*umen in singing.

hiz, iz, z, s.—In speaking iz, z, and s are subjoined to nouns as signs of the possessive case, though they have never been properly represented as such in writing. There appears to be no very good reason why they should not even be written separately after the noun. But whether conjoined or separate, the additional comma sign now used is only an excrescence, since the drift of a sentence is or should be sufficient to denote the case. To be convinced of its uselessness we have only to reflect that in speaking there is nothing that corresponds with the sign in question beyond what can be represented by a suitable character symbol, and if no inconvenience is experienced without its equivalent sign in the one case, there should be no need for it in the other. There are, indeed, a good many excrescent signs and wonders in writing, on the use and abuse of which, however, we will forbear to dilate further.

It will be noticed that there are several words spelt exactly alike though of quite different meanings. Perhaps it is hardly necessary to remark that the context or drift of the discourse or sentence should be in writing, as it is in speaking, quite sufficient to denote the particular meaning to be attached to such words. Letters and words, in fact, are not meant to be used singly or without reference to something either expressed or understood.

OTHER LISTS.

NUMBUZ.

K*a*udinul.			*Or*udinul.
woun	ilevn		f*ur*ust
t*u*	twhelv		sekund
thre	*thur*ut*en*	*thur*uti	*thur*ud
f*or*u	f*or*ut*en*	f*or*uti	f*or*u*th*
f*ai*v	fift*en*	fifti	fif*th*
siks	sixst*en*	siksti	siks*th*
sevn	sevnt*en*	sevnti	sevn*th*
eit	eit*en*	eiti	eit*th*
n*a*in	n*a*int*en*	n*a*inti	n*a*in*th*
ten	twhenti	hundud }	twhentiu*th*
		hundrid }	
		*th*a*u*zn	
		milyun	

THU DEIZ.

Sundi.
Mundi.
Ti*u*zdi.
Wednzdi.
*Thur*uzdi.
Fr*a*idi.
Satudi.

THU MUN*TH*S.

Dzhany*u*eri.
Febr*u*eri.
M*a*utsh.
Eiprhil.
Mei.
Dzhi*u*n.
Dzhi*u*l*ai*.
*Or*u*g*ust.
Septembu.
Okt*ou*bu.
N*ou*vembu.
Disembu.

THU S*E*ZNZ.

Sprhi*ng*.
Sumu.
*Or*utum.
Wintu.

SUM P*UR*USNUL NEIMZ.

Alfrid.
Edwud.
Edmund.
Wilyum.
Henri.
Stevn.
Ritshud.
Dzhon.
Meuri.
Ilizubu*th*.
Dzheimz.
Tsh*a*ulz.
Olivu.
An.
Dzh*or*udzh.
Vikt*or*riu.

SUM DZHIO*U*GRAFIKUL NEIMZ.

Yi*u*rup.
Eishu.
Afriku.
U-meriku.
*Or*ustrheiliu.
Greit Britn.
I*ng*lund.
*A*iulund.
Skotlund.
Weilz.

THI I*NG*LISH KA*U*NTIZ.

B*a*ukshiu.
Bedfudshiu.
Buki*ng*umshiu.
Wiltshiu.
Wesmulund.
Worikshiu.
Wustushiu.
K*or*unw*or*ul.
Keimbridzhshiu.
Kent.
Kumbulund.
Y*or*ukshiu.
D*a*ubishiu.
D*ur*rum.
D*or*usitshiu.
Devnshiu.
Dlostushiu.
Tsheshu.
H*a*ufudshiu.
Rutlunshiu.
Shropshiu.
Stafudshiu.
S*ur*ri.
Sufuk.
Susiks.
Sumusitshiu.
Herifudshiu.
Esiks.
Hamshiu.
Oksfudshiu.
Hunti*ng*dunshiu.
Midlseks.
Monmu*th*shiu.
Li*ng*kunshiu.
Lestushiu.
La*ng*kushiu.
N*or*ufuk.
N*or*u*th*amtunshiu.
N*or*u*th*umbulund.
Noti*ng*umshiu.

TSHAPTU V.

KWHOLITI.

U GUD d*e*l iz vei*g*li set da*u*n tu kwholiti, inso*u*mutsh that thu t*ur*um haz bikum ridi*u*st in m*e*nin t*u* u khnsidurubl digr*e* uv indefinitnis. Yi*u*zd, ha*u*evu, in r*e*zn an in its r*a*it plheis it iz u khnv*e*niunt t*ur*um. Let us, theuf*or*u, s*e* wot wi kn mek uv it.

In khnekshun with this inkwh*a*iuri wi mus bi keufl not tu khnfi*uz* pitsh un kariktu with kwholiti, *or*ulth*ou* bo*uth* *a*r intimutli ba*u*nd up with it in sp*e*tsh.

Thu kariktu f*or*umeishunz b*e*in limitid, and with pitsh insufishunt t*u* u-ka*u*nt f*or*u thi endlis piki*u*liaritiz an modfikeishunz b*a*i witsh thu sp*e*tsh uv difrunt p*ur*usnz iz disti*ng*wishubl b*a*i thi iu, wi mus luk elswiu f*or*u thi eksplhuneishun, neimli, tu kwholiti.

No*u* t*u* p*ur*usnz *a*u tu bi fa*u*nd h*u* havnt sum piki*u*liu kwholiti uv v*or*is b*a*i witsh thu sp*e*tsh uv thu woun khn bi disti*ng*wisht frum that uv thi uthu. Dzhust uz no*u* t*u* feisiz *a*r e*g*zakli u-l*a*ik, ha*u*evu tlho*u*s thu rizemluns in sum rispeks *or*ufn iz.

Kwholiti iz khmpeurubl tu thu s*ur*ufis uv sum mitiuriul obdzhikt, witsh mei bi ruf *or*u sm*u*th, w*a*il thu fashun *or*r *a*utl*a*in un kulu mei bi thu seim in *e*thu keis *or*r undu difrunt khndishunz az tu s*ur*ufis. In uthu w*ur*udz, meni obdzhikts mei bi *u*-l*a*ik in f*or*um w*a*ilst difurin si*u*pufishuli.

In thu v*a*ibreishun uv u strhi*ng* kwholiti iz tsh*e*fli di*u* tu wot *a*u k*or*uld its h*a*umoniks. Thu prhinsupl *or*u fundumentl v*a*ibreishun uv u strhi*ng* iz that uv its ho*u*l le*ngth*, an this givz thu sa*u*nd its pitsh. In u-dishun t*u*, an ko*u*insidunt with, this ho*u*l le*ngth* v*a*ibreishun u numbur uv sm*or*ulu v*a*ibreishunz f*or*umin se*g*munts uv thu seim strhi*ng* *a*u set up, thu kwholiti b*e*in dit*ur*umind b*a*i th*e*z si*u*pupo*u*zd v*a*ibreishunz.

Vo*u*kl kwholiti iz p*a*utli di*u* tu modifikeishun in thu dzhenurul strhuktshur un prhup*or*ushunz uv thu vo*u*kl *or*u*g*unz. This mei bi t*ur*umd strhuktshurul kwholiti, an s*ur*uvz tu disti*ng*wish difrunt individzh*u*ulz.

Theur iz, m*or*ro*u*vu, u kwholiti thut mei bi st*a*ild khndishunul, az dino*u*tin u tsheinzhubl khndishun uv v*or*is, in woun un thu seim individzh*u*ul, undur olturubl s*ur*ukumstnsiz. Wen, f*or*r e*g*z*a*umpl, u v*or*is iz spo*u*kn ov uz tlhiur *or*u h*or*us, thu refruns iz tu kwholiti uv this neitshu.

Inunsieishun ugen mei bi natshurul, disti*ng*kt, *or*u, on thu kontrhuri, indisti*ng*kt, khnstrheind, f*or*ust, w*a*inin, dr*or*ulin. Sa*u*nd iz l*a*ikw*a*iz modif*a*id b*a*i veurius khnt*or*ushunz, u fakt thut shud bi b*or*un in m*a*ind b*a*i tho*u*z h*u* hav tu d*u* with strheinzh la*ng*widzhiz, so*u* us t*u* uv*or*id thu misteik uv setin da*u*n fu ni*u*li diskuvud kariktuz *or*u f*or*umeishunz wot *a*u miuli khnt*or*ushunz ov sum *or*r uthu uv thi *or*udnuri wounz.

Hiur it mei bi wel tu dr*or*r u l*a*in bitwh*e*n prhununsieishun and inunsieishun. Thu disti*ng*shun tu bi ubz*ur*uvd iz, that in strhiknis prhununsieishun haz tu d*u* with kariktu, w*a*il inunsieishun u-plh*a*iz tu kwholiti an manur uv utrhuns.

Kwholiti veurieishunz b*e*in endlis *a*r uv k*or*us iridi*u*subl tu r*a*itin. Thi iu haz theuf*or*u thi udv*a*untidzh in rispekt uv kwholiti, az wel uz in rig*a*ud tu pitsh. But p*ur*umununsi bilou*ng*z o*u*nli tu kariktu, witsh iz thi elimunt ridi*u*subl tu r*a*itin.

THU W*A*INDUP.

"*OR*UL *thing*z *a*u dubl woun ugenst unuthu, and h*e* u*th* meid nou*thing*k imp*ur*ufikt. Woun *thing* istablishi*th* thu gud uv unuthu."

*A*i hav indevud t*u* istablish u korisponduns uv p*a*uts, l*a*iknin thi imitiuriul with thu mitiuriul, and, az u w*a*indup, th*e*z sevrul p*a*uts *a*u hiu plheist tugethu tu sho*u* thu khmplh*e*tnis uv thi unaludzhi.

Thus let sa*u*nd bi khmpeurubl tu sum natshurul bodi *or*u substuns, then wi ubtein thu folo*u*in rizult :—

sa*u*nd = substuns.
la*u*dnis = ma*g*niti*u*d.
pitsh = kulu.
kariktu = f*or*um.
kwholiti = s*ur*ufis, *or*u finish.

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